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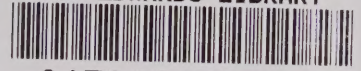
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Amoptico.

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SOUTHBRIDGE, MASSACHUSETTS



PRINTED IN U.S.A.

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Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

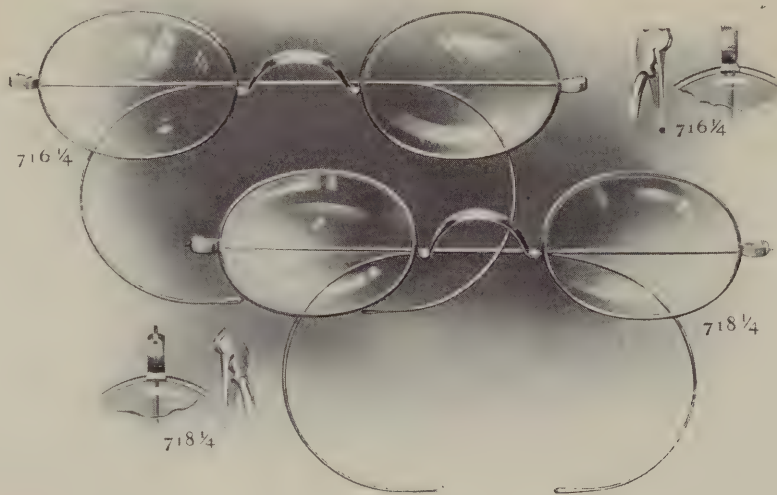
Vol. III

April, 1914

No. 1



American Optical Company Solid Gold Goods



Riding Temple, Rounded End Piece

Catalogue No. Description
Cap Joint Solid Joint

706	708	Lightest
706 1/8	708 1/8	Heavier bridge
716	718	Light
716 1/8	718 1/8	Heavier bridge
716 1/4	718 1/4	Medium
716 3/8	718 3/8	Heavier bridge
716 1/2	718 1/2	Medium bridge
716 5/8	718 5/8	Heavier bridge
716 3/4	718 3/4	Heavy

Cable Temples

726	728	Extra heavy
736	738	Heavier

Add letter C to all catalogue numbers to designate cable temples

Look for these trade-marks on AOCo Gold goods

8 Karat	Ⓢ	+
10 "	Ⓢ	⊖
14 "	Ⓢ	14K

We take no little pride in the fact that our gold goods have always enjoyed a certain prestige such as has been accorded no other make. You who have handled these goods for years know what a controlling part we have played in the development of gold goods in general, and how we have brought them to a point never attained elsewhere. When you carry the AOCo line you have a standard article recognized the world over for its beautiful workmanship and uniformity of parts. AOCo goods will always come to you just as you want them. They are always "good stock." The AOCo trade-mark should be the first thing you think of when you order gold goods of your jobber.

Catalogue No. Description
Straight Temple, "C" or "SS" Bridge

Rounded End Piece

Solid Joint, Round Temple

792	Light
792 1/4	Heavy

Rounded End Piece

Solid Joint, Half-round Temple

793	Light
793 1/4	Heavy

Riding Temple, "SS" Bridge

Rounded End Piece

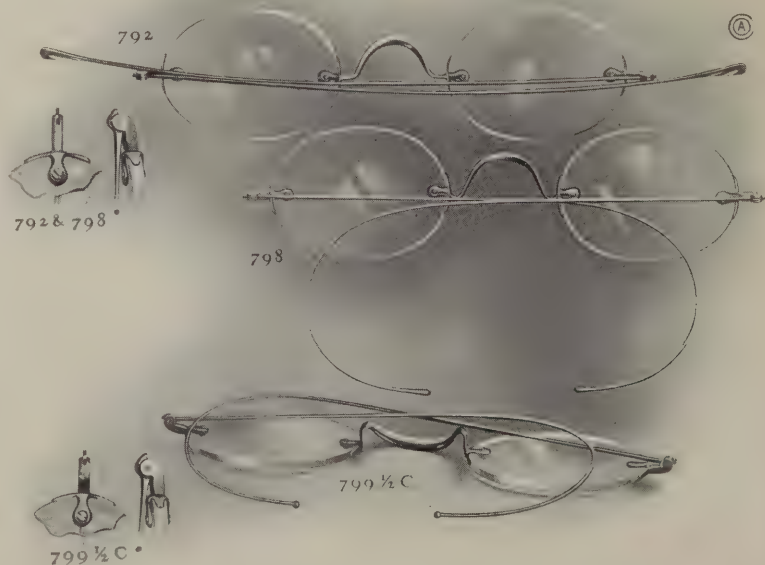
Solid Joint Cap Joint

798	798.6	Light
798 1/8	798 1/8.6	Medium
798 1/4	798 1/4.6	Heavier
798 1/2	798 1/2.6	Heavy
798 3/4	798 3/4.6	Extra heavy

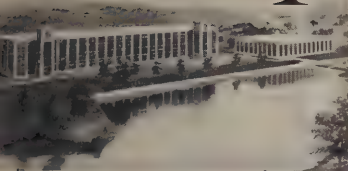
Beveled End Piece

Solid Joint

799	Light
799 1/8	Medium
799 1/4	Heavier
799 1/2	Heavy
799 3/4 (Cable)	Heavy



Amoptico



An Industry That Aids the Eyesight

Safeguarding the AOCo Gold Production

"What happens when a mistake is made, or one of these tiny gold pieces gets lost?" asked the visitor. "They practically never get lost," replied the foreman of the gold department. "We watch them

or flat stock of the right shape, size, gauge, and karat to be used in manufacturing the various parts of the finished goods. A careful assay of each lot has been made to be sure that it is up to the required standard. As these pieces arrive they are accompanied by a printed form stating fully the weight, karat, etc., on which their value is based. Another weighing is immediately given them, to be sure that no mistake has been made, and then, every piece bearing its full history, they are ready to be stored in the gold department's huge vault.

Through long experience, the foremen are able to tell accurately what parts will be in demand, and a card on which is printed the maximum and minimum stock of each that should be on hand warns them when it is time to replenish.



Thousands of dollars' worth of gold is daily handled in this department

too carefully. When you are handling pieces of gold you simply can't make mistakes." And the sureness with which the answer was given spoke volumes for the system that made it possible. Every day thousands of dollars' worth of 10K and 14K gold is handled by scores of employees in this one department alone, yet the loss or misplacing of even the smallest item of this amount would immediately be known and traced back to the point where the error occurred.

The gold which is here transformed to finished eyeglasses and spectacles is received direct from the gold stock department. There it has undergone a change in form from government gold pieces to wire



Mistakes? No, we simply can't have them

Now comes an order for a number of gold eyeglasses, perhaps of a peculiar design calling for material that is not commonly kept in stock. (If



an order for regular goods came, all the parts would be lying in readiness to be made up immediately.) The gold stock from which the special parts are to be made is taken from the vault to large balances where it is weighed with the greatest care. If it is to be divided and sent to various parts of the department for separate operations, separate slips are made out to accompany each tray of stock. In this way a perfect check on the amount of gold issued, and its destination in the department is secured.

After the special parts have been stamped out, shaped and gone through all necessary operations, they are once more returned to the office, this time with all the scraps and bits of stock left over. Once

again a careful weighing is made. If for any reason the weight fails to agree with the figures determined upon when the stock was first issued, the pan containing the work is immediately sent back to the workman to whom it was issued, and a search made that invariably discloses the missing parts. Mistakes? No, we don't have them, that's all. Once in a great while some tiny part may become mislaid temporarily, but it is always found.

Hundreds of thousands of dollars in gold is often stored at one time in the department's huge vault—more than is kept by many a town or small city bank. Yet so perfect is the system by which this wealth is checked in and out, that practically none is ever lost.



Gold Varsity Spectacles Again Have You Ordered Yet?

"I 'clar to gracious," as Uncle Remus used to say, "Ain't I never done tol you 'bout dat befo'?"

We've told you about our Gold Varsity Spectacles before, but again, as Uncle Remus says, "Flapjacks ain't good twell dey's turned ober twice."

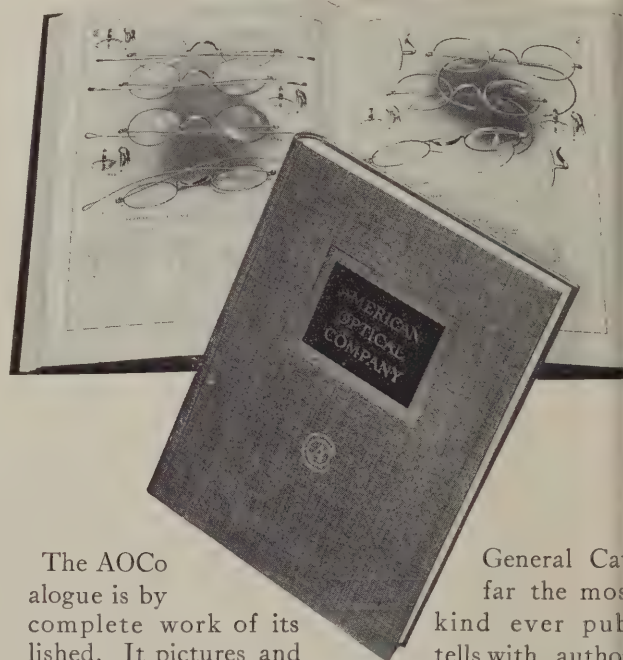
An issue of AMOPTICO dwelling especially on Gold Goods would not be complete without calling your attention to Varsity Spectacles again.

In our December issue we told you of the care used in making these Varsity Spectacles; how hand-work enters into their manufacture so prominently, and how only the most skillful workmen are detailed for the work.

We find that results are proving that such care is justifiable, for AOC Varsities have shown a steadily increasing sale. If you are carrying them now, you are realizing their solid value. If you aren't, take a leaf from the experience of those who are, and send in an order for them. Here are the prices:

Cat. No.	Description 14K Gold	Eye Size	Trade price each
2167	Heavy half riding frames comfort cable, smooth, pear tip 741 end piece	40 mm.	\$20.00
		42 mm.	21.00
		44 mm.	22.00
2163	Straight temple frames open tip, half-round temple	40 mm.	16.00
		42 mm.	16.75
		44 mm.	17.50
2162	Straight temple frames, open tip, round temple	40 mm.	16.00
		42 mm.	16.75
		44 mm.	17.50

The Most Complete Catalogue of Optical Goods Ever Published



The AOC catalogue is by far the most complete work of its kind ever published. It pictures and tells with authority of all the standard lines of optical goods, and will be invaluable to you when it comes to specifying the particular goods in which you are interested. No attempt has been made to make it a price list. There are no prices in it. Instead it is merely a reference work, designed to put you in touch with and outline the scope of the goods manufactured by the American Optical Company. Every oculist, optometrist and optician is entitled to one of these beautiful three hundred and fifty page cloth bound catalogues, and will find it an invaluable aid in his daily work. To insure its reaching authorized parties only, kindly write on your letterhead stationery or enclose your business card.



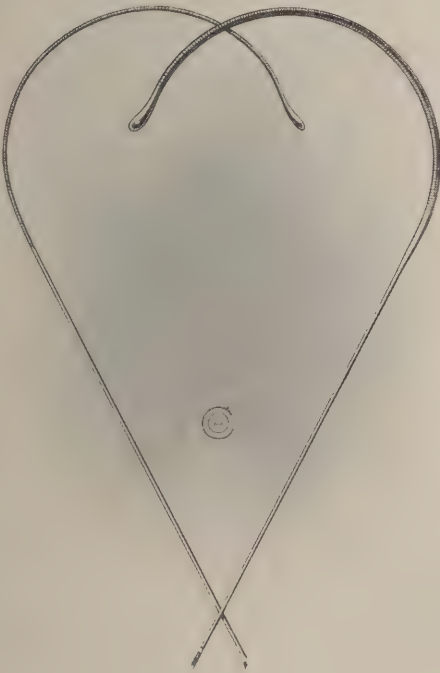
NEW GOODS for up-to-date DEALERS



practically all issues of Amoptico there are announcements of new AOCo goods which are of special interest to those who like to keep abreast of the times. You will find them worth your careful consideration. They are usually well in advance of announcements of similar goods that you will find in other publications, and give you the opportunity to be the first in your territory to display them.

Latest Improvement in Solid Gold Goods

Cable Temples With Perfex (Pear) Tips



We are glad to announce that after a long period of experimenting we have succeeded in producing comfort and regular cable temples with perfex (pear) tips. The new cable perfex pear tip is perfectly smooth without visible seam, and is exactly as strong and of the same temper as the butt of the temple.

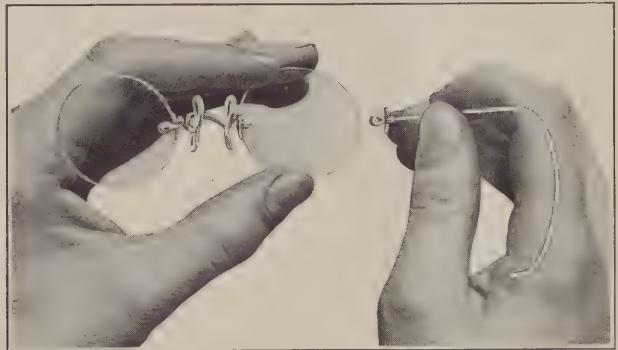
Most opticians and optometrists have found it necessary in the past to bend the pear tips on temples to prevent their digging into the ears. The new AOCo temples will make this unnecessary, as they are already bent to shape.

You should surely carry these in stock, for they are far superior in every way to all others of this kind on the market. Their advantages are perfectly apparent and easily demonstrated to your customers. Your jobber will supply you with them. No additional price for this improvement. Be sure to specify them if you want them.

Have You Seen Our Patented Safety Bows No. 1688A?

A Recent Idea With a Real Selling Punch

The man who originated the idea for the Safety Bows we are now showing here, knew glasses—not only their good points, but their weak ones, as well—otherwise he would never have thought of this



AOCo Safety Bows No. 1688A

highly-useful trouble-avoider, Safety Bows.

Many people object to the appearance of even rimless spectacles, and refuse ordinarily to wear them; yet they realize, as does everyone who wears glasses, that there are certain times when the best fingerpiece mounting ever made is not an adequate safeguard to hold glasses in place. The result is that it is either necessary to carry spectacles in addition to eyeglasses, or run the risk on some occasion of dropping the eyeglasses.

With these Safety Bows, however, all this annoyance is avoided. The golf enthusiast, finding himself on the links without his spectacles, may now with the aid of these Safety Bows gain perfect security by using them in connection with his eyeglasses. All that is necessary is to bend the little straps in or out to suit the thickness of the lenses, slip them on—and you have a new pair of spectacles as secure and solid as anyone could wish. Remember that these patented Safety Bows can be supplied in



Alumnico and in Gold-filled, and may be used equally well with rimless or frame eyeglasses.

You will find them ready sellers, for it takes no technical knowledge on the part of your customers to enable them to see their advantages. On page 16 of this issue we are illustrating a new demonstration show case sign that actually displays the Safety Bows, and acts as a silent salesman. Our foreign customers will be pleased to know that signs sent to them will quote English instead of American prices.

PRICES OF AOCO PATENTED SAFETY BOWS NO. 1688A

Cat. No.	Description	Trade Price Per Doz.
1688A	With Riding Temples ☐ 1/10 12K Gold-filled	\$6.00
1388A	With Riding Temples Alumnico	\$3.75
1688A (Cable)	Riding Temples ☐ 1/10 12K Gold-filled	\$7.25
1388A (Cable)	Riding Temples Alumnico	\$5.00

New AOCO Lens Box Covers



The American Optical Company has recently adopted a new form of label for lens boxes with which every purchaser of lenses should be familiar. We are illustrating the design here. On all interchange work, these labels will be printed in blue to indicate bevel edge, and in red to indicate rimless lenses.

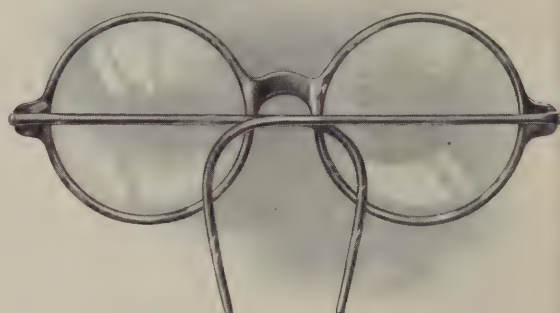
Pomona, Cal.
"It affords me great pleasure to acknowledge the receipt of your general catalogue. It is certainly a work of art and one that every optometrist should be the proud possessor of. Thanking you for the compliment and honor conferred, I remain,
"Fraternally yours, a booster for Fits-U,"
Dr. L. C. Hannum.

Brandon, Man.
"Accept my hearty thanks for your latest catalogue, which arrived a few days ago. I also extend congratulations to you for having been elected a member of the Rice Leaders' Association. You are certainly entitled to membership if for no other reason than the publication of such an 'optical encyclopedia' as your latest catalogue."
G. C. Hughes.

Trenton, N. J.
"I have been handling the Fits-U Mountings for the past three or four years and I find them to be as represented and am able to adjust them to almost any nose."
Earl V. Smith.

A Good Time to Stock these Zyloware Goggles

The zyloware goggles shown here are the latest development in an already full line, but these carry such distinctive qualities for use and comfort that



AOCO Zyloware Goggle

they find a place different from all other styles. Here's the "how" and "why" of it; the points you can talk to your customer who is looking for the real thing.

Large eye goggles must at best be rather heavy, owing to the weight of the glass lenses. Add to that the weight of a metal frame, and support it all on the bridge of a man's nose, and the pressure is considerable. With a zyloware frame, the weight is reduced to a minimum and the broad bearing surface of the bridge together with the flexible temples give relief to tired nerves and muscles.

A good zyloware frame bearing the AOCO trade mark on the back of the endpiece costs no more than the ordinary cheap celluloid article. They are designed strictly from the standpoint of the optometrist, and are consistently shaped in every part.

Zyloware goggle frames (55 m/m eye) are supplied in any of the popular shades as enumerated below. Artistically they are very handsome, for amber lenses match the amber finish almost perfectly. You will find that these goods meet a ready sale, and carry a mighty fine profit, too. Order through your jobber at the following prices:

Cat. No.	Description	Price per dozen
R617	Dark Shell color with Mi-coquille Amber lenses	\$15.00
R637	Amber color with Mi-coquille Amber lenses	15.00
R647	Light Shell color with Mi-coquille Amber lenses	18.00

"Madam, the feather in your hat is getting in my eye," exclaimed a man in a crowd. The woman turned around, looked him over, and then inquired "Why don't you wear glasses?"—*New York Globe*.



Special Packing for "Speedwell" Goggles No. 3348 B. E.

In our February number we announced a new Goggle bearing the trade name "Speedwell," which we are now manufacturing. Not only is the Goggle itself quite individual, but its packing is unique, as well.



Attached to the goggle is a red tag with white lettering bearing the name "Speedwell" on one side and the retail price on the other (\$3.00 for Gold-filled and \$2.00 for the Japtol finish). Each goggle will be in our Number 377 Japtol Case, which, in turn, will be enclosed in a special black cardboard box with printed matter displayed in gold bronze ink and inside the case will be another label bearing the trade-mark name "Speedwell."

This unusual packing will attract attention when a goggle alone might not. It will help you materially to make a sale. You can buy these Speedwell goggles of your jobber, with either white or amber curved lenses. The amber will be supplied unless otherwise ordered.

Cat. No.	Description	Trade Price Per Doz.
3648	Gold-filled Speedwell Goggles, White or Amber Lenses	\$17.50
3348 B. E.	Japtol Speedwell Goggle, White or Amber Lenses	12.25

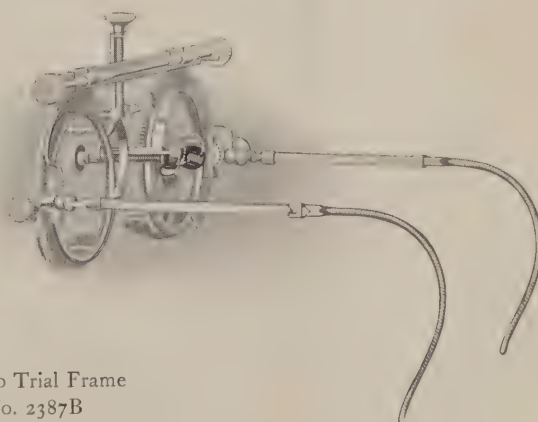
Trial Frames with Comfort Cable Temples

The old trial frame was a relic of the dark ages. It was heavy, uncomfortable, with a trick of sagging upon the patient's head, the small sharp temples cut into the skin, and the bridge raised an abrasion on the nose.

If you will reflect a moment, you will admit that the past few years have seen important advances in the lessening of weight and the increasing of comfort in trial frames. We are very glad to announce a new comfort cable temple for trial frames, which we believe is the utmost in refinement, and which will do away with any discomfort and consequent displeasure.

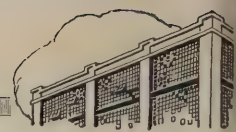
The frame is very light, weighing, without lenses, only 1 3/4 oz. It has all the adjustments which are necessary to secure a correct and proper fitting frame and mounting, including adjustment for P. D., height, inclination of bridge, length of temple, and axis of cylinder. With the exception of the adjustment for temple length, correct measure is secured by knurled thumb screws, which permit preciseness and scientific accuracy. It is a patented, revolving, three-cell frame with celluloid scale (having 5° graduation) on eyes.

The great improvement, however, is the comfort cable temples which are made like the regular AOC comfort cable temples with the smooth tips, so comfortable behind the ears. These trial frames are



AOC Trial Frame
No. 2387B

furnished in alumnico, and may be had from all jobbers carrying AOC goods. Ask your jobber's salesman to show you a sample the next time he comes around. An inspection of this trial frame, however brief, will convince you of its many merits. These C.C. temples are now ready on our trial frames and an extra charge of 50 cents is all they cost.



Announcement of Plans for the Big Window Dressing and Idea Letter Contests of the Rice Leaders of the World Association

Of Interest to Every Optical Dealer in the Country

The Rice Leaders of the World Association, of which the American Optical Company is a member by invitation, and regarding which a special leaflet was inserted in the last issue of AMOPTICO, is beginning to make itself felt as a power in the business world.

On February 20th and 21st last, the officers of the various concerns forming this Association met in convention at the Waldorf Astoria Hotel, New York. In that brilliant assembly, including some of the finest business brains in America, plans affecting future policies of the Association were evolved and decided upon.

This important convention was the subject of unusual press comment throughout the country, and it is generally conceded that this unique Association, of which the American Optical Company is a member by invitation, is making history in the business annals of America.

Whilst the co-operative efforts of members of the Rice Leaders of the World Association will be directed towards maintaining and increasing the prestige enjoyed by them in the world's markets, at the same time, as has been announced in previous issues of AMOPTICO, plans directly affecting the sales of AOCo goods and products of other members of this Association have been inaugurated.

These plans will be laid before the public in May. They comprise an Idea Letter Contest, wherein the public may express ideas regarding the merits of AOCo and other products in letters not exceeding fifty words in length, which competition carries with it 3,500 prizes ranging from \$1,000.00 down; and at the same time a Window Display Contest will be inaugurated all over the world among those dealers handling any of the products of members of the Rice Leaders of the World Association.

It is in the Dealers' Contest that you will be particularly interested. Contestants are not required to incur any expenditure in any way. It is simply a Window-dressing Competition, and the display will be made in accordance with the good taste of the contestant, from the goods he has in stock. This Window Display Contest carries with it 500 prizes, ranging from \$2,000.00 down.

One of the conditions to be complied with is this: A banner carrying the emblem of the Association and full list of members, including the American Optical Company, must be displayed in every competing window. Otherwise the display will not be eligible.

These banners will be supplied by the Association upon receipt of an application from any dealer upon his own letter paper and signed by him, in which requisition he must state what member's products he proposes to display.



A distinct photograph of any size must be taken of the display, from which the effectiveness of the window will be judged by acknowledged competent authorities on Window Displays. It goes without saying that although there are so many prizes, there will not be sufficient for every contestant to receive a cash prize. Naturally, the best windows will win; but, although every contestant may not be fortunate enough to win a cash prize, yet each and every contestant will receive a handsome acknowledgment of his enterprise in entering the contest in the shape of an album containing 100 photographic reproductions of the leading prize-winning Window Displays throughout the world.

In many instances such an album, which could only be compiled through such plans as this Association has inaugurated, entailing an expenditure of half a million dollars, will outweigh in importance to the recipient even a cash prize, for by studying such an album he will be in a position to make more effective window displays in the future.

It is generally conceded that a Window Display directly and advantageously affects sales. Any optical dealer thus having before him pictures representing the best dressed windows in the world cannot fail to render more efficient service to his customers through his window space, and incidentally bring greater profit to his business.

You who handle products of the American Optical Company are cordially invited to take advantage of this contest when it opens and capitalize in your own interests the tremendous enthusiasm and publicity that it will occasion throughout the country.

It is interesting to note how these contests, namely, the Idea Letter Contest and the Window Display Contest, interlock with each other. It is the most natural thing in the world that any person entering the Idea Letter Contest, wishing to gather data upon which to base his letters, should look for the AOCo goods he proposes to write about in your window. He will enter your store, if AOCo goods are displayed, to consult with you and learn the special merits of AOCo products.

Could any arrangement be devised where more effective opportunities for business could be offered to you who sell "Fits-U" and other AOCo Optical Goods than to inaugurate such competitions which will actually influence possible purchasers to enter your store to inquire about the goods?

By this universally awakened interest the battle will be half fought. It will require but tact and efficiency upon your part to capitalize such inquiries and conversations with possible buyers and to cause the proceeds thereof to increase your business and bank account.

New Fits-U Luxe Eyeglass New

The Eyeglass with Fixed Lower Guards



Cat. No. O3121

NEVER, since the invention of fingerpiece eyeglasses by Jules Cottet in 1896, has so important an advance been made in eyeglass construction. The ordinary fingerpiece eyeglass, with the exception of a few minor improvements or modification, is to-day exactly the same structural device that was made originally by the American Optical Company under the Cottet patent years ago. Without belittling the importance of the improvements and patented features that have made the Fits-U famous—such as the AO-Washer, AO-Loop, Ovallex Spring, and the short P. D. Bridge—we can truthfully state that up to this time no real *basic* changes have been announced in any fingerpiece eyeglasses that the optical market has seen.

It is natural that the American Optical Company should bring about this great basic improvement that is now announced, not only because we have been pre-eminently the world leaders in fingerpiece eyeglass-making, but because we were first to develop the rigid bridge type and have been so largely responsible for its wonderful success—almost to the entire retirement of flexible spring eyeglasses from the market. It is natural, too, that this important construction should be identified with the Fits-U, for this eyeglass has enjoyed a larger sale than any other patented eyeglass ever marketed, its fame spreading to every civilized country in the world.

[Continued on page following]

Lower
Guards
Fixed

New Fits-U Luxe Eyeglass New

Upper
Guards
Moveable

THE principle underlying the new Fits-U Luxe is an accepted theory in frame-fitting, employing the combination of two distinct ideas, both of great importance in the art of making glasses. The first idea is that the weight of an eyeglass or spectacle is most comfortably carried on the sides, and not on the bridge of the nose. The great success of what are called bearing-pad spectacle bridges in contra-distinction to the common spectacle bridge attests the soundness of this theory. This is readily understood when it is considered that side bearing-pads provide a greater bearing surface, distributing the weight without discomfort. The second idea is that the function of eyeglass guards is to prevent slipping or tilting forward and thus hold the glasses on with the least possible spring pressure; without also carrying the weight.



Fits-U Luxe Eyeglass will not tilt forward

It is evident from a reference illustration that our Fits-U Luxe fulfills the principle by providing a broad weight-carried lower pad guard. Our fixed pads have been designed, they will thenceforth automatically find the proper position on the nose,



Ordinary Fingerpiece Eyeglass tends to fall forward

ensuring the correct alignment of the lenses, as accurately as is possible with any spring if not more so. Consider the importance of this point when it is known that slight axial deviation attended with serious results. Not only is the angle automatically correct but the centers of the lenses cannot be off for the adjustment is rigid, absolute.

THESE adjustments relieve the moving guards of all but the simple function to which they are rightly applied; that of holding the glasses in place to prevent slipping or tilting forward. So slight is the effort necessary to do this work under such circumstances that the lightest of spring pressure, much less by far than that of any other form of eyeglass, will suffice; and the important increase in comfort to the wearer can be readily appreciated. By the employment of the most popular rocking-pad principle, with its independent adaptation to the AO-Loop arm, the greatest opportunity is given for a nicety in fitting, impossible where an entire guard must be adjusted. These pads constitute the only moving parts of the eyeglass performing an individual function.

[Continued on page following]



Moveable Upper Guards, closed

Cat. No. 03121

No Increase in Price

Cat. No. 03121

Extensive manufacturing economies have enabled us to offer this new Fits-U Luxe at no increase in cost over the former price for the regular Fits-U Eyeglass. It has been possible to do this without departing in the slightest way from the established high standard of quality and finish for which the Fits-U is so favorably known. Now that the favorable terms on which Fits-U's are marketed to-day furnish a most attractive proposition from the viewpoint of profits, aside from the great public satisfaction the Fits-U enjoys.

No. 03121 Fits-U Luxe Eyeglass	Ovalex Spring Mountings	No. 03121 Fits-U Luxe Eyeglass	Ovalex Spring Mountings	Frames
1/10-12K Gold Filled, per dozen	\$7.50	10K Gold, per dozen	\$16.50	\$30.00
1/10-12K G. F. Fitting sets (1 doz. complete)	8.00	14K Gold, per dozen	24.50	42.00
1/10-14K G. F. Amoptico line, per dozen	9.00			



Upper Guards open. Note fixed lower pad guards

General Offices and
Factories at
Southbridge, Mass., U.S.A.

© American Optical Company ©

Branch Offices
New York San Francisco
Chicago London

New Fits-U Luxe Eyeglass New

The Eyeglass with Fixed Lower Guards

[Continued]

THE COMBINATION of these principles applied to Fits-U Eyeglasses provides an entirely novel structure on which we have acquired basic patents; so these features are now at the exclusive disposal of Fits-U users. This policy of improvement is one by which Fits-U dealers have profited for years, as successive improvements such as those mentioned above have been given first to the Fits-U.

It is with the greatest confidence that we predict the immediate success of the Fits-U Luxe eyeglass, for these seemingly radical departures from the present accepted type of finger-piece eyeglass are, in fact, logical and highly desirable.

The fixed and absolute adjustment of rigid parts now brings the science of eyeglass fitting to an exactness never before possible. It is significant to note, too, that this innovation does not displace the many proven advantages already possessed by the regular Fits-U. It adds no complications to assembling, measuring, fitting, or repairing. It is by no means a freak or fancy. If anything, it simplifies the individual problem of fitting in every case, and makes for surer and more satisfactory results.

It is almost needless to state that the development of this idea was not accomplished in a short time. It is the culmination of the efforts of experts who know, and whose experience is expressed in even the minutest detail of design and construction, after the most exhaustive and critical tests have been applied to the problem.

The Fits-U Luxe eyeglass takes the lead, establishing a distinctly new plane for itself in the realm of eyeglass-making, and occupying that place alone and undisputed.



Amoptico

Vol. III April, 1914 No. 1

Published Periodically by

American Optical Company
1833-1914

Channing M. Wells President Albert B. Wells Treasurer

J. Cheney Wells
Vice-President and SecretaryGeneral Offices and Works
Southbridge, Massachusetts, U. S. A.New York . . . 15 Maiden Lane
Chicago . . . 122 S. Michigan Boulevard
San Francisco . . . 140 Geary Street
London . . . 39, Hatton Garden, E. C.Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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AMOPTICO, American Optical Company,
Southbridge, Massachusetts, U. S. A.

THE late Professor James, of Harvard was the greatest authority on Philosophy and Psychology that this country has ever known; an original thinker in his field who stands supreme. One theory of his was that on whatever level a man may exist, he lives, works, and thinks on that level until some great force pushes him ahead to a more advanced level, where his efficiency is so much the greater.

The task before all of us is to persistently strive for the level above, resolving that we shall not be content to regard our thoughts, our actions, or our business as satisfactory until we have fulfilled our highest possibilities.

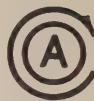
The American Optical Company is applying this thought in every department of its work, and we are constantly seeking ways of improving our goods. You, on your part, must do your best to raise the standard of your business.

Resolve to be a "solid gold" man. If you are now on the 12K gold-filled level, work up to the 14K filled level. If you have already reached that, strike out for the 10K solid gold level, and so on until you are on the 14K gold basis. You can pull your present customers with you, and add new ones as you go. It will mean more profits and greater mental satisfaction.



WHEN Johnny sneaks into the closet the night before Christmas to see what papa has brought home, that's inquisitiveness—and will probably lead to tears of protestation and a spanking—which only goes to show that inquisitiveness can very easily be used at the wrong time and in the wrong place. When Johnny, senior, who is an optometrist, investigates the quality of the gold-filled specs and eyeglasses he buys of his jobbers, that's inquisitiveness again; only this time we don't call it by that name. We call it caution. Which simply proves that inquisitiveness turned in the right direction is a mighty handy thing to have.

American Optical Company welcomes the right kind of inquisitiveness on its gold-filled goods. We make them honest all through and label them to show the quality they actually are—not what they ought to be. If you like to handle such goods, just ask for the kind that bear the AOCo stamp.



YOU would not go into a shoe store and ask for 1½ pounds of cheese, would you? Or into a clothing store and try to buy an aquarium?

The chances are you would ask for shoes in the shoe store and clothes in the clothing store. And you do that because you know they carry what you want!

No man will go into an Optometrist's store and ask for goods which he does not think he can find there. And if he does not know that you carry goggles, or chains and reels, or Amoptiscopes or any one of the dozens of things which are included in your stock, he won't ask for them.

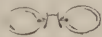
Advertise! Show your stock. A dozen spectacle cases stuck in a corner where they can't be seen are just as bad as taking the money they represent and throwing it away. Let the people know what a variety of goods you carry and then they will ask for them, not before.



"Advertisements As Is"

"\$2.00 Eyeglass Sale to-morrow all day and evening until 9 p. m. with my best 14 K gold-filled nose piece and my best Torid Lens, all fitted to the eye."

Hot Stuff! As the correspondent who sent this advertisement to us noted on the margin opposite the word "Torid." Of course we do not wish to appear to insinuate that such an advertisement might ever be printed above your own name and address. We simply wish to call attention to the necessity of viewing advertising as a serious undertaking not to be begun unless you are prepared to give it your full attention.



Bridgeton, N. J.

"I am just in receipt of your very handsome catalogue, for which please accept my best thanks. It is certainly a wonderful publication and I will take great pleasure in referring to it frequently."

F. G. Stieren, O. D.



Uni-Bifo LUXE Bifocals

PATENTED, TRADE-MARK REGISTERED

A Triumph of Modern One-piece Bifocal Lens Grinding

Almost from the very conception of bifocal lenses a well defined purpose has been kept in view by the manufacturers and others interested in the development of ophthalmic science, looking towards the production of a practical bifocal lens having true ophthalmic values and consisting of a solid piece of crown glass with the two lenses ground invisibly on its surface.

Most ingenious methods were devised from time to time in these attempts and many patents have been granted, but the lenses produced have been neither accurate nor commercially profitable. These results were crude, and even far less satisfactory from an ophthalmic viewpoint than the common forms of cemented bifocals so generally used. The difficulties encountered were of a purely mechanical nature which it seemed well-nigh impossible to overcome. There did not appear to be any process devised which would do away with such glaring defects as (a) imperfect spherical surfaces, (b) well defined neutral "zones" having disagreeable prismatic effects between foci, (c) deep grinding and polishing scratches or grooves.

Having long realized that the successful accomplishment of this long sought object would give to the world a bifocal lens so distinctly superior as to be literally in a class alone, we have watched with interest the experiments of others, in addition to devoting much time and great expense to experimental work in our own organization.

The first indication of a successful attempt to make a practical one-piece lens came to us in 1909 from England, where experiments had been carried on under scientific conditions employing specially devised machinery. The inventors of this machinery were about to place upon the market the results of their efforts, which are now generally known throughout the optical trade in Europe as Uni-Bifo. and "Luxe" Lenses. They had developed a grinding and polishing process which seemed to produce well-defined and accurate curves. Keenly alive to the value of such progress in the lens grinding art, we at once investigated, with the result that negotiations were effected by which we secured American patent rights. Experts from our scientific staff were dispatched to England forthwith for the purpose of studying machinery and methods, that the best ideas might be applied to the development work we were then carrying on.

In the meantime, important United States patents were obtained on methods of making one-piece bifocals and on the lenses. Further investigation showed that these patents really held the key to the problem as we believed it must be worked out for the great American market.

Under these patents we secured a manufacturing license; so the way was at last cleared for rapid prog-

ress under most favorable auspices. We are, therefore, operating along the line of greatest experience under the protection of strong patents not only on processes for producing LUXE bifocals but on the blanks and lenses as well.

A most complete merchandising plan has been worked out under which these lenses are sold, giving an opportunity for favorable profits to each branch of the trade.

Briefly, this plan provides for the issuance of what are called "Finishing Licenses" upon the payment of a stipulated royalty to the owners of the patents entitling the licensee to purchase blanks at the maximum discounts, for finishing (that is, surfacing, edging, drilling, and mounting) for re-sale. Obviously, the securing of a license will appeal at once to all users of high-grade bifocals, who are thus enabled to earn a satisfactory profit upon their license investment, as well as a good profit as a merchandising proposition. To put the matter in more concrete form; anyone whose business will consume an average of one pair or more of LUXE bifocals per day may profit very handsomely by operating under a finishing license, for the inducements are most attractive.

On the other hand, the dealer who buys one-piece lenses from a finishing licensee may realize a better return on every sale than is usual to-day upon any bifocal on the market. As the dealer whose sales average but one pair of these lenses per day may realize an attractive profit on a license investment so the attractiveness of the proposition is amplified directly as the sale.

Uni-Bifo LUXE lenses have the near and distance spherical curves ground on the "bifocal" or inner side of a single piece of clear crown glass of index 1.523 in toric form. From long experience and a close study of trade demands, it has been decided to confine the regular forms of this lens to two stock sizes of reading portions for the present, although special sizes may now be made to order.

Blank B., 47 mm., round; with 19mm. full circular reading portion.

Blank E., 49 x 38 mm., oval; with 30 x 15 mm. semicircular reading portion.

These sizes are to be known as regular, and are both listed at the same prices, giving a choice of two sizes of reading addition, which is a most important advantage.

The sizes of the uncut blanks themselves have been selected with a view to including the entire range of lens sizes usually called for in modern prescription work. In thickness, the blanks average approximately 3.5 mm. It must be remembered, however, that one side of the lens is already finished, the thickness being sufficient to permit of grinding all usual combinations, including strong cylinders and prisms.



A LUXE blank only 3.5 mm. thick may be surfaced quickly, effecting an important saving in time and labor.

The reading portion of the LUXE bifocal lens lies outside the inner curve of the distance portion, so the distance part of the blank may be surfaced extremely thin, making the lenses light and handsome.

Uni-Bifo LUXE lenses, being made of a solid blank of crown glass with two lenses ground invisibly on its surface, have some very conspicuous advantages not possessed by any bifocals which are made by combining two pieces of glass as two separate lenses, one adjacent to the other, as a cemented or fused combination one upon the other.

Technically speaking, and, in fact, from the viewpoint of ophthalmic result, the old Franklin (split) and Perfection Bifocals were the best form that could be worn, for the very good reason that the wearer looked through a simple lens—a single piece of glass—when reading. Of course, in consideration

of their unsatisfactory appearance and the annoyance of the prominent edges, they were much less to be desired than the later forms.

The Uni-Bifo. LUXE lens overcomes all the disadvantages that have been raised to all forms of bifocal lenses. To understand this broad statement it is merely necessary to consider the following qualities:

1. Absolutely no chromatic aberration.
2. Invisibility.
3. Thinner than any other bifocal forms.
4. Two sizes of reading portion available.
5. One side only to be surfaced.
6. A hard surface of crown glass to resist scratching.

New Westminster, B. C.

"Your general catalogue reached us in perfect condition. We are extremely delighted with it and feel sure it will be a great help to us in many ways. AMOPTICO also comes, which we eagerly read. Please accept our many thanks for your kindness and prompt attention to our requests."

Ury & Bewley.

A Snappy Bunch of Bowlers

Aren't they handsome? Look at 'em! Probably the most proficient bunch of bowling prodigies ever gathered together in one place. They're all members of the Office Bowling League, six teams of them. Listen to the names: Fits-U, Smart Set, Best Yet, Wilsta, Vici, and Ovalex.

'S' funny what's in a name, isn't it? The Best Yets proceeded to justify their name at the very beginning of the season by jumping into the lead, and though each team has time after time tried to bowl them off their pins none has yet been able to hold a candle to them when it comes to garnering in the necessary points to win. The poor Wilstas, also determined to stick by their cognomen, have stuck to the bottom in spite of their most determined efforts. The chances are they will stay (please excuse us for that) there till the end of the season.

But these champs aren't the only ones of which the AOCo can boast. There is a shop league and a Lensdale league, as well—and that's where the cup comes in. When the end of the season arrives, each league distributes prizes to the men who have knocked over the greatest number of pins and secured the highest averages. Five men are then chosen to represent each league and bowl for the beautiful cup presented by the AOCo, illustrated here. After the excitement is over, each league holds a banquet—where fowls are quite permissible—and everybody goes bowling home, vowing that it's been the best season ever.

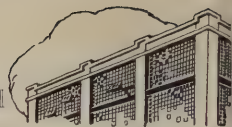


Chicago, Ill.
"I want to tell you that I like the new Fits-U Ovalex so much that I am discontinuing the other fingerpiece mountings I have been carrying."
Lichtenstein Bros.

San Luis Obispo, Cal.
"The use of your cuts and slides has materially aided in an increased business last year and I am looking forward to a similar increase through the same medium this year. I trust your already great business will show a greater volume this new year we are just entering."
Dr. H. A. Gowman.

"The copy of the catalogue has come to hand, for which please accept my thanks. At the outset I can truthfully say that it is the finest work of its kind I have ever seen. The illustrations are not only unusually 'true to life,' but very beautiful in design, and show the goods in the best possible way. Refinement and good taste, too, are always in evidence."
Arthur H. Wiseman (with A. J. Lloyd Co.).

Hartford, Ct.
"We are sending you a clipping in which this ad. has been running. At the same time we wish to thank you for this cut."
Edw. J. Brown.



SELLING *the* GOODS



In addition to the advertising helps illustrated here, the AOC Co places at your command the assistance of free supplies of newspaper electros, imprinted blotters, car cards, lantern slides, etc. It is worth while to sell AOC Co goods merely for the sake of being able to apply these helps to your business.

It May Be Little, But Oh! My!



AOC Co Electro No. A26

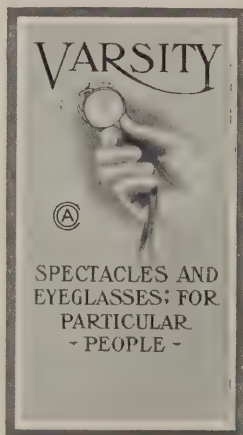
It isn't always the biggest things that make the greatest flutter you know. Last December we published an announcement about two newspaper electros advertising toric lenses and the instant demand which arose showed how widespread the interest in these lenses was. Those were pretty large cuts, though (nos. AA18 double column and A23 single column), and were perhaps too large for many of our friends. But this cunnin' li'l feller certainly cannot be accused of taking up too much room. With each electro that we send, free, by the way, is a sheet containing a series of six changes of copy. All you have to do is to send cut and copy to your printer and tell him to go ahead. We are all ready for the flutter of requests we know we shall receive for this cut, and will gladly send it to you.



"Varsity Spectacles and Eyeglasses for Particular People."

This is the title of a beautiful little leaflet we have just completed, designed to help you who handle AOC Co Varsityties to sell them. We have spared no expense in arranging it, for we know that the persons to whom the goods themselves appeal are particularly sensitive to good taste, both as regards the spectacles or eyeglasses and the way in which they are presented.

A supply of these four-page leaflets, with your own name and address printed on the back page will be sent free to any optometrist or optician who handles AOC Co Varsity goods. It will be worth your while to sell the AOC Co line and use these circulars.



Display Your Safety Bows With This Demonstration Sign

Have you read about the new patented AOC Co Safety bows illustrated and described on page 5 of this issue? We hope you already have your order pad in front of you and are prepared to send along an order for them to your jobber, for you'll surely see their advantages and the chances they offer for a good profit. Here we are showing a



AOC Co Show Case Sign No. 4W1

demonstration show case sign to help you sell these safety bows. A pair of them can be attached directly to the card and a container at the bottom will hold an additional supply. Your customers have a complete story of the goods before them—their uses, their price and their quality.

This little silent demonstrating salesman will not make you dig in your pocket to pay his salary at the end of each week. All he asks is a chance to sit in a prominent place and with his orange and black colors flag the attention of the people who pass him.

When you have sent an order to your jobber for a supply of AOC Co patented safety bows, be sure you get one of these little silent salesman signs. He will be sent to you free with every dozen you buy.



Scientific and Experimental Department



If to make eye-
glasses, spectacles
and other optical goods were a mere matter of
mechanical processes of accepting raw material at
one end of our plant and turning it out at the other
in the form of finished goods, how simple it all would
be. Business *might* be conducted in
that way, and the various eyeglass
and spectacle parts sent flying
through the factory in a kind of
scrambled egg form, trusting to
luck that the goods would be satis-
factory. But it would not be done
for long.

Our scientific department is one
of the many checks we keep on the
quality of the materials we use.
Two expert metallurgists and chem-
ists, with an assistant, are kept con-
stantly at work, following the huge
quantities of
raw material
which are pur-
chased daily,
analyzing and
testing. And
it is truly as-
tonishing to
talk with
them about
their work and
learn of the
variety of ma-
terials which are submitted to them.

Not long ago, we received a large shipment of
glass which was to be used in lens work. Of course,
specifications had previously been stipulated and
agreed upon, so that we had every reason to believe
we were justified in proceeding to use it at once.
Samples of the shipment were sent to the scientific
department to go through the formality of testing.
But the chemist said: "Stop—don't use that glass.
Its index of refraction is not right!" The great
glass works from which this stock was imported
protested, but in vain. For we had the latest and
most scientific instrument, made especially for that
sort of work, capable of determining the refractive
index to the 6th decimal place, and this instrument

had shown up its true density beyond any question.
The glass was not accepted for the work, and our
standard was maintained.

Every year samples of thousands of pounds of
soap are tested—such as is used in washing lenses.
Trivial as this may seem, it is, nevertheless a most
important operation, for soap of a wrong chemical
structure will attack the delicate polished surfaces
of a lens and render it almost unfit for use.

Rouge, Emery, Corundum, abrasive agents of
all descriptions, must first pass a
test before being accepted as fit for
use. A rouge for example, which
contains any amount of silica (quartz)
might severely scratch the lenses
during the polishing process, and
be quite unfit for use.

The testing of the metals used is
another vital point—in some ways
the most important of all. Not only
is it necessary to test the metal
used directly in eyeglass frames, but
the machines used in its manufac-
ture must frequently have attention.
For example, some time ago one of

the dies used
in reducing
gold-filled wire
failed to work
properly. It
was taken to
the scientific
department,
and the analy-
sis showed that,
owing to im-
proper struc-

ture, it would be impossible to correct the defect.
So the die was destroyed and a perfect one took its
place, thus sav-
ing a large ex-
pense due to
manufactur-
ing imperfect
stock.

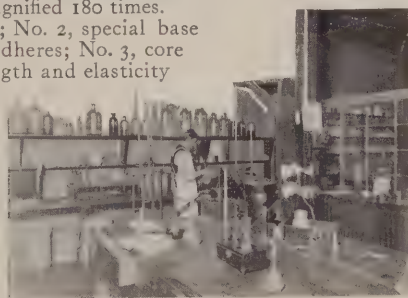
The photo-
graph of gold-
filled stock,
enlarged 180 times which we show here, is interesting
in that it shows how well equipped we are to see that
only perfect gold-filled stock is placed on the mar-
ket under the AOCo trade-mark. By means of an



Gold-filled stock, magnified 180 times.
No. 1, strip of 14K gold; No. 2, special base
metal to which gold adheres; No. 3, core
of metal giving strength and elasticity

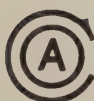


All kinds of glass, rouge, etc.,
are tested here



We make an analysis of all
materials used





exceedingly delicate instrument known as a micro camera, samples of our gold-filled stock are examined. The light line which shows so clearly is the shell of gold as it appears to the camera. Note how even it is in spite of the magnification. The darker section is the base metal core.



Southbridge to the Front Again

Not in war, of course, for we're a very law abiding community and prefer making eyeglasses to chopping off heads for a living, but in dancing. After the firemen's ball we told you about last month, the stenographers called a close meeting (no one but stenogs allowed) and the result was a dance that rivalled that of the firemen. We're not quite sure about the translation of the gum-arabic looking sentence that appears below the picture of

the poster used to advertise the affair, but one fair young damsel whispered that it read "Come on up—we'll all be there." At any rate everybody did go, and it was "some soirée." Quite *au fait*, *pomme de terre*, et cetera, as the Parisiennes would doubtless say. We hope that you'll all keep the invitation in mind and use it—next year.



Ideas Worth Knowing

One enterprising optician down south has hit upon the expedient of placing some of the imprinted Fits-U Blotters, with which we supplied him, on the desks of the hotels of his town. By keeping these handy in this way he not only reaches many of the centers where his own towns folk congregate, but reaches a large floating population as well. We pass the suggestion on to you. Possibly you can use it.



DOCTOR: There's nothing but a cinder in your eye.
PAT(IENT): Faith, I think 'tis a clinker or a sidewalk brick.

—Scribner's

This micro camera furnishes a constant check on the quality and structure of the goods we produce, and is simply an example of the care we take to protect your interests. We believe that this care will be repaid many times by the better quality of goods we manufacture and the greater satisfaction they will give you.

AOCO Traveling, Dress Suit, and Folding Style Trial Sets



A shabby Trial Set can undo the best efforts of the brightest traveling Optometrist. It may prejudice a possible patient before a word has been spoken.

AOCO Trial Sets are made in all desirable sizes and have the stamp of honest construction and careful workmanship. Removable tray for interchangeable lenses, holding one gross pairs. Space provided underneath tray for stock. Cases covered with special quality heavy black sealgrain leather. Tan sole leather supplied if desired.

Don't prejudice your patient. Buy a new up-to-date AOCO Trial Set. It will help your sales and give you added confidence.

Full particulars from your jobber. Write to-day.



It frequently happens that optometrists and opticians find it necessary to send glasses to their patients, by mail, rather than to hold them until called for. Here is an idea in connection with this mailing that is well worth knowing. Place in the box with the glasses a printed label addressed to yourself, that is large enough to be stuck over, and entirely cover the top and both ends of the box used to send the parcel to your patient. Also put in the box a card, with room for remarks and complete directions for remailing the box to your address. Then when the patient finds it desirable to return the glasses for further adjustments and repairs, all that is necessary is for him or her to use the box and label already prepared, and follow your own shipping directions. In this way you can insure the work being returned to you rather than to some other optometrist or optician.



MATERIALS + SKILL + EXPERIENCE

The best material in the world cannot be converted into an efficient optical machine unless manipulated under the guidance of master workmen thoroughly acquainted with optical trade requirements. Nor can experience alone,

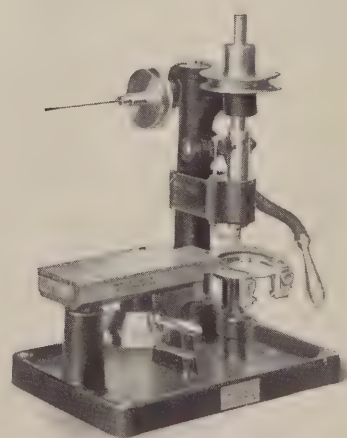
or skill, guarantee satisfaction to users of optical machinery, unless this skill and experience is given the best of material on which to work.

It is only when perfect material is placed in the hands of men with utmost skill and long experience in optical work that a perfect result can be guaranteed.

AOCO OPTICAL MACHINERY

is the product of such factors. Only those materials best suited to the work in hand are used, and the entire process of manufacture is left to skillful machinists whose long acquaintance with the work has made them able to gauge the accuracy of their product to an astonishingly fine degree. *You* must have machines made by men who know and understand your problems. Your drills must always work true; your edge grinder must give you exactly the shape you expect; your surfacing machine must always be relied upon. In short, your machinery must inspire you with perfect confidence.

American Optical Company machinery will justify your full confidence. Write to your jobber for a catalogue and full particulars.



THE SATURDAY EVENING POST

An Illustrated Weekly
Founded A. D. 1728 by Benj. Fra

MARCH 7, 1914



Beginning The Trail of the Tammany Tiger—By

**American
Optical
Company**



Eighty years' experience in the making of eyeglasses, spectacles, lenses, cases—every need for the eyesight—are your unfailing guarantee of scientific accuracy and highest quality in all **Q**-marked products. Ask your oculist, optician or optometrist to show you our famous

**Fits-U
Eyeglasses**

and the cleverly blended bifocals—the far-and-near—

**Kryptok
Lenses**

If your eyes need help, or if you now wear glasses, send for "Eyes Right." It tells how to buy glasses.

American Optical Co.
Address Dept. F, Southbridge, Mass.
Largest makers of Spectacles, Glasses, and Lenses in the world.
New York Chicago San Francisco London



When you sell Fits-U Eyeglasses you receive the benefit of a national advertising campaign that is continually influencing the choice of your customers in favor of these well-known goods.

If you do *not* sell Fits-U Eyeglasses, you are deliberately fighting against the rising flood of publicity this advertising creates. Why try to buck the tide? *Swim with it.* Rise to a bigger business by taking advantage of your customers' preference for Fits-U Eyeglasses.

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

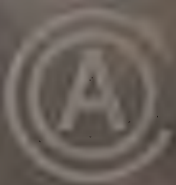
Vol. 3

May, 1914

No. II



ens Number



AOC_o KRYPTOK BLANKS



A superior quality of lenses can only be produced when every factor connected with their production is superior. Reliability in Kryptok lenses can only be guaranteed when the men, machines and methods which make them are reliable.

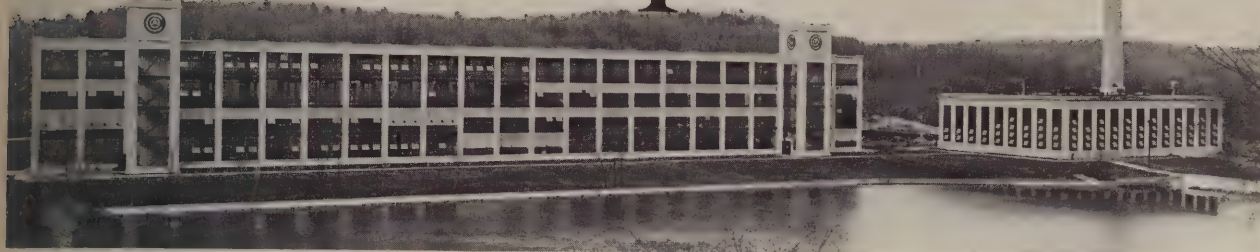
The American Optical Company guarantees AOC_o Kryptok blanks because the organization which produces them has proved itself thoroughly reliable through many years of experience.

Every blank is tested and approved before being sent to your jobber and he has the AOC_o guarantee of its superior quality.

Ask your jobber to grind your Kryptok lenses from AOC_o blanks. You will be perfectly sure of satisfactory results.



Amoptico



Talks with the Practical Optician

Practical Points on AOCo Abrasives

In order that the manufacture of lenses may be carried on economically and rapidly the use of the best possible abrasive is absolutely imperative. The grinding process was formerly done with sand, and if time had been no object its use would have been fairly satisfactory. It cuts rapidly at the start, owing to the physical formation of its grains or crystals, although being but slightly harder than the glass itself it breaks down rapidly and requires constant renewal. It is still used on some lines of glass grinding where it can be shoveled on in large quantities, but for spectacle lenses, in this country at least, its use has long since been discontinued.

The next step forward in lens grinding was taken when emery was substituted for sand. This material is a more or less impure oxide of Aluminum, the impurities being iron and other metallic oxides combined both mechanically and chemically. It occurs as a granular or massive dark colored substance, looking very much like iron ore and in fact may be more properly regarded as a rock than as a definite mineral. Its hardness is from 8 to 9, according to its purity; the hardness of quartz being 7, that of corundum being 9 and that of the diamond 10. In its purest form, when from 90% to 95% Aluminum oxide, it is called corundum.

Emery varies very much also in its physical structure, and as its abrasive power depends as much upon its physical as its chemical properties, it can be readily seen that unless great care is used in selecting it, the results consequent upon its use are bound to be uncertain. Lens manufacturers, therefore, have taken great precautions to procure emery which is taken from the same mine to ensure its running as uniform as possible. In spite of the utmost precautions, however, great variations occur in the quality of the grinding directly traceable to variations in the emery.

As before stated, there occurs a form of Aluminum

oxide much purer than emery, called Corundum.

With the idea in view of securing a much more uniform abrasive than emery, the AOCo several years ago began using corundum. It was difficult at first to make the lens grinders take kindly to the change, as the notion prevailed that a certain amount of *dirt* was necessary to hold the emery in place on the grinding tool. If this theory had been correct, then there could have been no doubt that emery filled the bill, as it contained 25 to 35% impurities or *dirt*. Experience, however, proved that *dirt* was not necessary to grind glass, and that by using a finer grade for finishing than was necessary with the soft and *dirty* emery splendid results could be obtained. Because of these facts the use of emery was discontinued and corundum substituted, making as long a step forward as that from sand to emery.

The benefits derived from this change are not confined to the AOCo factory, however, as AOCo M 302, M 302½, M 303 and M 303½ are now composed of corundum altogether although still designated as "emery" as a trade term, thus giving our customers the benefit of the change. AOCo M 302 is intended simply as a smoothing emery to grind out the rough pits left by the AOCo M 301 or roughing

emery. Not less than ¼ mm. should be removed by AOCo M 302. AOCo M 303 is intended to be used after AOCo M 302 as a finishing emery, and as it is extremely fine, great care must be used not to use too much pressure or to run the emery too black or dead, as the lens is thus almost sure to rub on the iron and tear deep grooves in its surface which resemble scratches caused by coarse emery. On this account AOCo M 303 emery is sometimes condemned as being gritty, when the real cause of the trouble is either too great pressure or running the emery too dead or else too dry.

It sometimes happens that a can of AOCo M 303

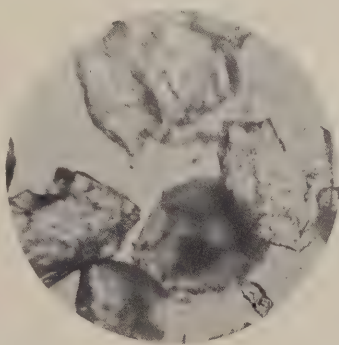
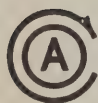


Figure 1. No. 70 Corundum, magnified 75 diameters



smoothing emery is returned to us from a customer with the statement that the shopmen have complained of its scratching. In every case the material

returned is subjected to a very thorough test in our hand-surfacing department and in our laboratory. Occasionally we find coarse grains in the fine emery returned, and when this happens we find that the emery has been mixed with water and is lumpy. We have accounted for the coarse grains in the following way:

It is customary with some shopmen

to have their cans of AOCo M 303 smoothing emery on the bench beside them. In fining, the operator dips his finger in water and then dips it into the can of fine emery, feeding this emery onto the lap. This is a practice to be deprecated, as there is danger of conveying grit and coarse emery into the can containing the finer grade. The safer and more economical practice is to pour out a small portion of the fine emery into a suitable flat pan, and when this is used up pour out another portion. In the interim, the cover should remain on the can.

Extraordinary care is used in manufacturing this AOCo M 303 finishing emery to obviate the danger of any foreign matter's becoming mixed with it, and if these precautions are taken by the shopmen there should be absolutely no loss from scratches.

For those who insist on a more rapid cutting emery than AOCo M 303 we furnish AOCo M 302½ finishing emery. This grade will stand more pressure than AOCo M 303 and cuts considerably faster. It must be worked down more at the end of the finishing process. In other words, it must be run dead. While the AOCo M 302½ can be used directly after roughing, we do not recommend it, but advise always using AOCo M 302 for smoothing preparatory to the finishing process. This not only saves time and ensures better work but conserves the more expensive AOCo M 302½ or AOCo M 303 finishing emeries.

The AOCo M 303½ grade mentioned above is a special grade of emery which is prepared particularly for microscope and camera lens work. This grade, as well as AOCo M 303, is sought for by the most noted scientific instrument makers of Europe, who pronounce it better than they have been able to procure elsewhere or to grade themselves.

The reasons for this superiority are due partly to AOCo methods in selecting materials, partly to

processes in grinding, by which the little crystals of corundum are robbed of their sharp jagged edges and perhaps most important of all, the care and skill used in grading.

Corundum runs, as stated, from 90% to 95% Aluminum oxide. It is the work of the chemist in the AOCo chemical laboratory to analyze each shipment and see that the material is sufficiently pure Aluminum oxide. This is not all, however, as corundum from some localities often contains a high percentage of Amorphous Aluminum Oxide. The latter is to corundum what charcoal is to the diamond. It is non-crystalline and therefore not an abrasive. It is the duty of the AOCo metallurgist with his microscope and micro-photographic apparatus, to examine the material for this defect. We are thus insured pure materials to start with.

The accompanying illustrations showing microphotographs will be of interest as showing the physical structure and relative sizes of different grades of emery or corundum.

Fig. No. 1 is No. 70 corundum magnified 75 diameters. Note the transparency of the crystals and also the clean, sharp cutting edges.

Fig. 2 is No. 70 emery of the best grade magnified 75 diameters. Note that the grains are so full of dirt as to be absolutely opaque—over 30% impurities which do no effective work. Note also the absence of clean, sharp cutting edges.

Fig. 3 is AOCo M 302½ finishing emery magnified 75 diameters. Note the freedom from dirt, also the absence of any amorphous or non-crystalline material. Every grain clear as crystal.

Fig. 4 is AOCo M 303 finishing emery magnified 75 diameters. Note that the grains are a trifle smaller than Fig. 3. Note also the difference between the jagged cutting points of Fig. 1 and the smoothly rounded grains of Figs. 3 and 4.

This difference explains at once why the emery manufacturers are unable to produce a suitable finishing emery that will not scratch. Emery manufacturers crush their emery or corundum to obtain the different grades. Hence the grains have jagged edges and sharp corners which are bound to scratch. The smoothing and finishing grades of emery supplied by the AOCo have the sharp corners rounded off.

Some shop men are accustomed to use FF emery for smoothing, as supplied by emery manufacturers. On account of the crushing process by which it is produced

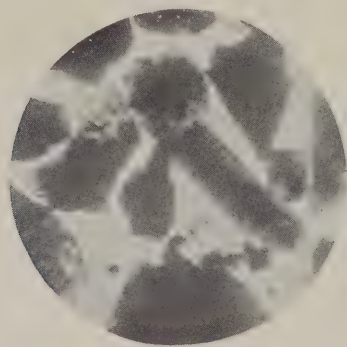


Figure 2. No. 70 Emery, magnified 75 diameters

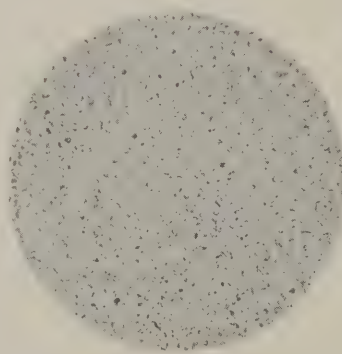


Figure 3. AOCo No. M302½, magnified 75 diameters

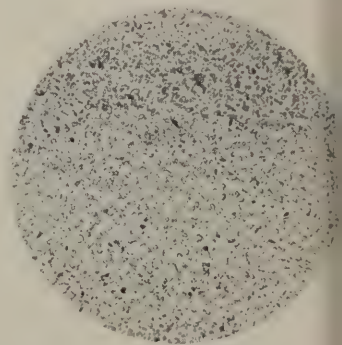


Figure 4. AOCo No. M303, magnified 75 diameters

NOTE: When AOCo M301 roughing emery is ordered, we regularly furnish emery of the best grade obtainable. We can, however supply corundum if specified, but owing to the fact that this material is much more expensive than ordinary emery, an extra price will be charged.

is bound to scratch, and these scratches must be ground out by the finishing emery. Thus, in order to give a few cents a pound for smoothing emery, valuable time and expensive finishing emery are wasted.

Fig. 5 shows human hair magnified 75 diameters. This will give a comparative idea of the extreme fineness of finishing emery. The average hair measures $3\frac{1}{2}$ thousandths of an inch or closely $\frac{1}{10}$ mm. AOCo M 302½ finishing emery grains measure closely $\frac{1}{400}$ mm. in diameter, AOCo M 303 finishing emery measures $\frac{1}{1000}$ mm. and AOCo M 303½ about $\frac{5}{1000}$ mm., so that the average finishing emery for prescription grinding measures $\frac{1}{10}$ the diameter of a hair. The methods by which these fine grades of emery or

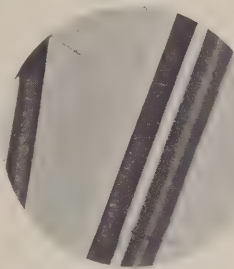


Figure 5. Human Hair magnified 75 diameters

rather corundum are graded in the AOCo plant are marvelous, and they have been perfected to such an extent that we have no hesitation in pronouncing AOCo M 301, M 302, M 302½ and M 303 emeries the best in the world for ophthalmic lens work.

If you do lens surface grinding and have not already tried them, send for samples. If you have tried them and have not obtained the results expected, send for advice. Send for our "Handbook of Surface Grinding." It contains valuable information in regard to the use of emery.

Our new "Talks With the Practical Optician" also contains a lot of valuable information to the surface grinder. Both are yours for the asking.

—L. W. Bugbee.



Are You Selling Zyloware Spectacles?

The rage for Zyloware Spectacles still continues, and more people than ever now look like scholars—whatever you may care to call them—as they walk down the street with their faces disguised by the big imitation shell glasses. It's up to you to take advantage of the demand for them.

The AOCo zyloware line contains new and original shades, made of a special stock selected particularly for its superior colors, resilience, and the property it has of taking a handsome finish. Each frame is made with a thorough knowledge of optical requirements, and the result is shown in its perfect proportions and shape. Bridges are angled at forty-five degrees. Angular endpieces (for reading) or split endpieces will be supplied when definitely specified in orders. Unless otherwise ordered we regularly furnish assorted P. D.'s and 40 mm. eyes.

Your jobber will supply you with AOCo zyloware spectacles at the following prices. Look for the little gold AOCo monogram on the back of the left and piece.

Sliding Temple Straight Temple

Frames Cat. No.	Frames Cat. No.	Color	Trade Price Per Doz.
R117	R113	Dark Shell	\$7.50
R127	R123	Black	7.50
R137	R133	Amber	8.50
R147	R143	Light Shell	10.00
R157	R153	Crystal	8.50

Eye sizes 38 mm., 40 mm., 42 mm.

Pupillary distances 58 mm., 60 mm., 65 mm., 68 mm.

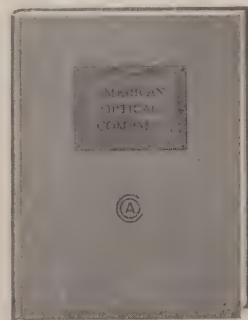
The Biggest Reference Book of Optical Supplies Ever Published

Every dealer entitled to one copy. Have you sent for yours?

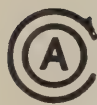
Three hundred and fifty pages of illustrations and reading matter, printed in two colors on the finest grade of coated paper and bound in heavy cloth covers. These are the physical characteristics of the AOCo general catalogue.

An unequalled reference work of Optical supplies embracing almost every line of interest to dealers, from solid gold Varsity Eyeglasses to the smallest tools used in an up-to-date prescription shop. There you have the contents.

The value of the contents? It's up to you. One of these splendid books will be sent to you if you will write in to us on your business letterhead, or enclose your business card. Others are now finding them almost indispensable in their work, and you cannot realize how much its possession will mean to you until you actually have it and see how wide its scope is. Don't delay about writing for your copy.



"I have cut out using any nose piece but the Fits-U and cannot speak highly enough of it. Of all the many nose pieces that I have tried to handle in the past the Fits-U's will stand more wear and tear, need less adjusting. When once adjusted they will stay.—DR. JOHN A. PRESSER, Philadelphia, Pa.



NEW GOODS *for* *up-to-date* DEALERS



Fits-U Luxe: The Eyeglass with Fixed Lower Guards

With the announcement of the New Fits-U Luxe eyeglass the American Optical Company takes another forward step in the development of comfort in eyeglass wear which is particularly significant. Ever since the conception of the fingerpiece idea in



Illustration of Fits-U Luxe with Upper Guards Held Open

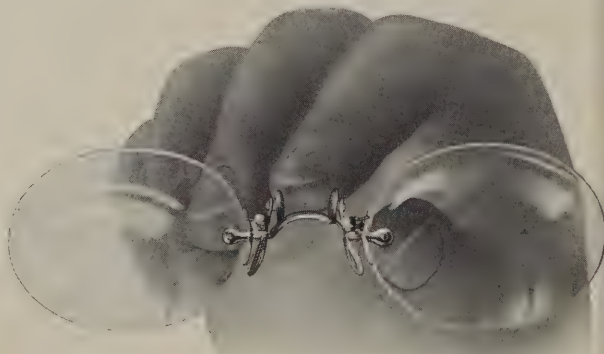
1896 by Cottet, manufacturers have been working to develop this principle to its highest efficiency and usefulness, but until the announcement of the Fits-U Luxe, whatever changes have been made in the original idea have been a development of that idea rather than changes in it. Throughout the eighteen years of this experimental work, the American Optical Company has continually taken the lead, with such improvements as the AO-Loop, allowing universal adjustment of guards, the AO-Washer (patented) and the Ovalex spring. The new construction does not in any way belittle previous improvements. In fact, practically all of them are embodied in the Fits-U Luxe. But in this case we have taken another stride forward which places our new product in a class without competitors.

The principle involved in fingerpiece eyeglasses is that a firm hold of the nose shall be secured by guards controlled by a spring action just sufficient to prevent slipping of the glasses under all ordinary conditions of use. But heretofore a function has been forced onto this spring which, theoretically

speaking, it should never have been called upon to assume. That is, the spring has had to press the nose with such tension as to enable it to support the weight of the eyeglasses. With the new Fits-U Luxe eyeglass (patented) the spring does not have to support this weight.

The basic difference in the construction of the Fits-U Luxe lies in the fact that the upper guard and lower bearing pads are entirely independent of each other. The upper guards, made with rocking pads, are controlled by fingerpieces and the popular Ovalex spring as in previous models. But the lower bearing pads are firmly fixed to the shank of the bridge and are made of malleable metal which enables the fitter to adjust them permanently to the nose. In this way the weight of the glasses is distributed evenly and widely on the sides of the nose as it should be, thus relieving the upper guards and spring from the necessity of supporting this weight.

Furthermore, the fitter is assured that the eyeglasses will always be placed in the exactly correct



Fits-U Luxe, Showing Spring Pressure Released and Upper Guards Closed

position, with lenses in proper alignment before the eyes, a feature which is extremely important, and which is not properly realized in other styles of eyeglasses.

The adjustment of the upper guards is then a very simple matter, it being only necessary to bend the

O-Loops until the pads rest against the nose with sufficient pressure to prevent the glasses from popping forward. Naturally, a very slight pressure adequate for this purpose, as compared with the much stronger pressure which was previously necessary.

Care should be taken when fitting the new Fits-U Luxe eyeglass to select the proper size of bridge in order that the lower bearing pads may rest comfortably. A perfect adjustment of these pads may then be easily secured.

Fits-U Luxe eyeglasses are made in both gold and gold-filled according to the qualities listed below. We are glad to say that through the extensive manufacturing economies we have affected and by reason of the very large production of these goods

that there will be no increase in prices above those previously charged for the regular Ovalex Fits-U.

Please bear in mind that the Fits-U Luxe is sold all over the country, and will very soon become known as the *one superior eyeglass*. Already there are more Fits-U's sold than any other makes of fingerpiece eyeglasses, and this new construction will add immensely to its popularity and distribution. We advise you to get in touch with your jobber about these goods at once, and place your first order. There will be no need of urging you to repeat your order later. Don't delay. Here are the prices:

No.	Mountings per doz.
No. 03121 Fits-U Luxe Eyeglass Patented (Ovalex Spring)	
1-10 12K Gold-filled	\$7.50
10K Gold	16.50



Our Response to a Growing Call for Gold-filled Varsity Spectacles

As a direct result of forecasting a demand, and the steadily increasing call for Gold-filled Varsity Spectacles, we announce the completion of two new models made in $\frac{1}{10}$ 14 Karat gold with 10K solid gold end pieces.

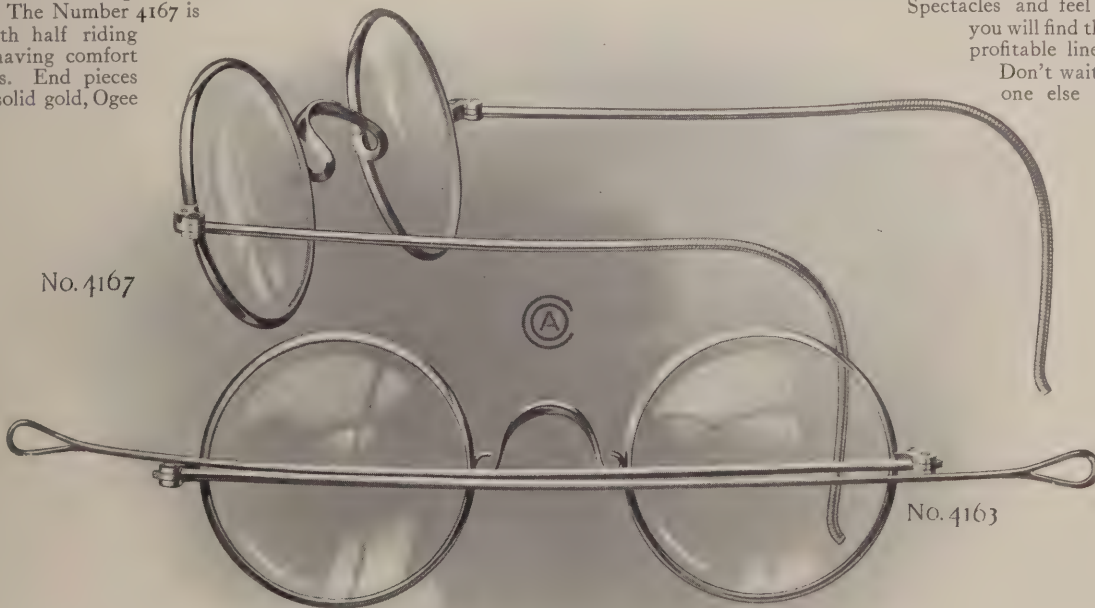
These new styles retain practically the same rich, solid appearance found in AOCo solid gold Varsities, the finely proportioned parts, the perfect finish and the comfortable bridges and temples. The Number 4167 is made with half riding temples having comfortable tips. End pieces are 10K solid gold, Ogee

Bridges on both are either "C" style with curl foot or the new close-fitting band bridge. In ordering, be sure and specify which you wish.

Eyes are 40 mm. and three sizes of P. D.'s are made: small, medium and large. Unless sizes are specified, each dozen is supplied in assorted P. D.'s.

We anticipate a heavy demand for Gold-filled Varsity Spectacles and feel sure that you will find them a very profitable line to carry. Don't wait for someone else to get in

No. 4167



style, set angular for reading. The Number 4163 Varsity is made with straight temples and open tips, with the same 10K solid gold Ogee angular end pieces. The temples are especially flexible, due to special AOCo manufacturing processes. Even a superficial comparison of these with others will prove the value of our method.

ahead of you. Order at once of your jobber at the following prices:

Cat. No.	Description	Trade price per pair
4167	$\frac{1}{10}$ 14K Gold-filled Varsity Spectacles with 10K solid gold angular end pieces. Half riding temples, comfort cable tips.	\$7.50
4163	$\frac{1}{10}$ 14K Gold-filled Varsity Spectacles with 10K solid gold angular end pieces. Straight temples, open tips,	6.00



Boards to the left of them—boards to the right of them; boards on all sides of them; and every board holding from one to twelve dozen pairs of lenses. In this case there is no volleying and thundering to be sure, but there certainly would be if one of the boards should by any chance become misplaced! Picture to yourself thousands of dozens of lenses going through our Lensdale plant daily and try to imagine the amount of detail work necessary to see that no slip-ups occur. Divide those thousands of dozens of lenses into all the various types



Guarding against Errors at Lensdale



"Boards" just received via overhead tramway from the grinding plant

which must be made in an enormous plant such as ours is, and you get some idea of the tangle which would ensue if our system of checking had not kept pace with the increase in our manufacturing.

The big re-inforced concrete building we refer to as the "New Lensdale," is devoted entirely to edge grinding, inspecting and finishing. By means of an over-head tramway, running from the Grinding plant, where all the surfacing is completed, the red boards, each with its quota of lenses, are conveyed to New Lensdale, where the finishing is to be done. As the boards come in, all powdered red from the "rouge" used in polishing, they are quickly sorted out into their respective classifications, whether Toric Plano Cylinders, Plano Cylinders, or whatever their form may be. Each board is then given a ticket which follows through with the lenses until they are inspected, and placed in the storeroom.

The work is first given to operators whose duty it is to inspect all lenses for quality, picking out all that may be scratched, chipped, strained or in any way defective, so far as can be determined by a first examination. All that are below standard are immediately picked out, and either sent back to

be reground or thrown aside as worthless. It is astonishing to watch the rapidity and ease with which the lenses are handled. Or

after another they are polished, held to the light and put through a rigid inspection. Then having been placed on boards which by their color determine the quality of the lenses, they are sent across the room to the "pickers out."

The next step is to mark the axes of sphero cylindrical and other similar lenses, and lay them in position so that they may be handled at the centering machines with speed and precision. In the hands of the "pickers out" they must once again be tested, this time to see that they focus correctly, and of the proper thickness, and are not prismatic. Each of these tests is a separate process, and failure to pass one of them by even the smallest margin is enough to cause the lens to be rejected. Different methods are used for making the desired tests. Toric Plano cylinders, compound Torics, plano cylinders and compounds in flat form are focused by means of the Lens Measure, others are focused by machines. Up to this point all lenses have been subject to practically the same treatment. Now, however, a further separation is made, and a "interchange" work is sent to the huge edging room.

During this time a careful record is kept of



The preliminary inspection for quality

each board of lenses by the various operators who handle it, and as this or that lens is thrown out as defective, a record to that effect, showing the cause of its rejection, is entered on the sheet accompanying that special board.

After the lenses have passed through every test successfully, they have next to be wrapped, and placed in the storeroom. But the trouble may not

et be over, for before being allowed to pass, they must submit to a final inspection. From each lot of lenses, all wrapped as they are, four from each



Inspecting
Interchange Work

dozen are selected at random and given a final severe test. Usually they measure up to all standards successfully, whereupon all are passed. If, however, any lens does not pass this final inspection, not only that one but *the whole lot from which it was taken* is sent back to the "pickers out" to have the whole process repeated. This applies to edged lenses also, after they come from the edging process.

In thus briefly outlining the precautionary measures we take to insure only perfect lenses being sent out under the AOCo trade-mark we have made no attempt to dwell in any detail on the many operations through which each lens passes. We have simply sought to show what pains are taken to insure against all possible errors. But you know, "accidents will happen—etc!" It is our aim to give you the best service and the most reliable goods that can be manufactured. The exceptions may sometimes come up, but they only go to prove the rule that AOCo lenses are the product of a company that appreciates the necessity for accurate work and is fitted to give it.

Specify AOCo lenses on your orders. It will give you the satisfaction of knowing that you are handling the best lenses made.

Busy Times for Goggles Now

"Have you heard about Chug's new car? Understand it is an 'Ump-ump 90' and can take the Matterhorn on the high." Or, "Did you know that Jounchem blew out three tires on his way to his mother-in-law's funeral last week?" That's a fair sample of the spring talk that is filling the air about now—just the audible evidence of the reawakening which takes place in motordom at this time of year. It is for you live ones to take quick advantage of this feeling and turn it to your own profit.

Put your best foot forward and prepare a good assortment of goggles that will pull dollars from the pockets of every autoist that sees them displayed in your store. Here are two excellent models to start with, made in either white metal or gold-filled, as you prefer to order.

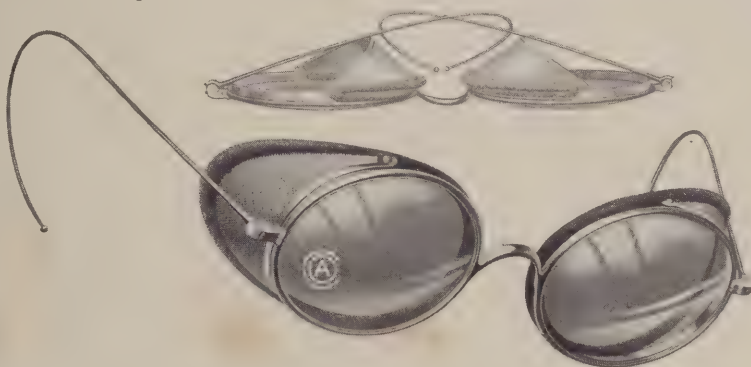
Send your orders to your jobber. You will find that these models will please *more* autoists than any other styles made.

No. 3026 White Metal with Coquille or Curved White or Smoke Lenses. Price, per dozen, \$7.00.

Gold-filled, with Curved Amber Lenses, per dozen, \$12.00; with Fieuzal lenses, per dozen, \$13.00.

No. 3028 White Metal with Coquille or Curved

White or Smoke lenses. Price, per dozen, \$7.00.



AOCo Goggle No. 3026



AOCo Goggle No. 3028

Gold-filled, with Curved Amber Lenses, per dozen, \$12.00.

Fieuzal lenses, \$13.00.

I've fooled around all day, and yesterday, too, and the day before, but things are going to hump—to-morrow.

I've had an idea for some time that this or that would be a cracking good scheme, and I'm going to try it out—to-morrow.

I need a better and more attractive display for the goods in my store—and I'm going to take that question up in earnest—to-morrow.

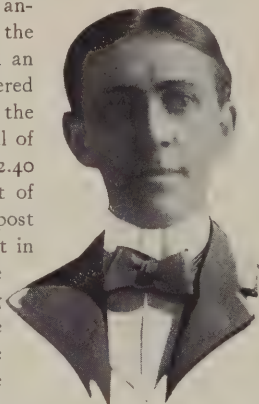
I've felt for a long time that this store needed brightening up—needed gingering—and I'm goin' at it for all it's worth—to-morrow.

But Not To-day!
Lord No! not TO-DAY!

From THE GUINEA PIG.

Have You Met "Pitt"?

Here is a picture of "Pitt Herbert," the man who sits behind a glass topped desk and gives expert advice on "How, when and where to order glasses." He's some expert, too. In fact he always has been an expert at one thing or another. Before he had attained to the dignity of long trousers he was such an expert at sweeping offices he dickered for and secured a "position" with the AOCo to perform that most essential of duties at the munificent salary of \$2.40 per. Along with this job went that of errand boy, another most essential post of endeavor. He was such an expert in the fulfillment of these labors that he swept himself right into the shipping and inspecting room which in those days, twenty-seven years ago, were in one department. It took him three years this time, but again he became so expert that he shipped himself into the gold department where he was soon giving the other men pointers on "methods, their use and abuse." In his spare moments (though he would doubtless say he never knew what such things were) he did a bit of exploration into other departments, after which he again headed for office work, this time to take his seat at one of the desks under which he had been sweeping a few years before.



In 1910 Pitt took a trip abroad, making a quick tour of England and France with Mr. Petherick, the head of our London office, Herbert for the first time meeting many European friends of the AOCo who had known him so long by letter.

Mr. Herbert is now division superintendent of several important manufacturing departments. Probably you who have been our guests in Southbridge know him personally, for he sits in the main office and keeps his eyes open, looking for a chance to meet anyone who can talk specs and eyeglasses with him. If you haven't met him, we hope you'll come to Southbridge and do it. That is an invitation to you and a wish for ourselves, as we know that when he's talked with you, you'll be so enthusiastic about AOCo goods that you'll never sell any other kind.

"I wish to thank you for the beautiful catalogue you sent to me a short time ago. This is the finest I have seen. Also for your monthly AMOPTICO. This is very instructive as it keeps me posted on all the new mountings, etc. I have used the Fits-U mounting for some time and it has proved very good. The new one with the Ovalex springs is a winner."

C. D. BOYLE, Optometrist, Moline, Ill.

Those Black-Rimmed Glasses

By Anthony Euwer

NOW I've been tryin' to get wise
How these new rims assist the eyes
And find what's in these big black rings
That makes folks wear such awful things.
Since tryin' them I'm wise, all right,
They really do assist the sight
And help you see how fashion ken
Make Billy Goats of Cats and Men.

Yet, when I pause, we women folks
Had best go slow on pokin' jokes
About these rims, not try to find



Perhaps It Would At That!

Here is a sentence we recently discovered in a newspaper advertisement published by an optical dealer in the South. There is nothing like frankness in these little matters:

"If you suspect that your eyes are not right, our examination will prove it without a doubt."

Our guess would be that there was not much chance of an prospective customer leaving that dealer's store without a pair of glasses.

Here's One Live Firm in Georgia

The A. K. Hawkes Co. recently sent us a photograph of their show window all "dolled up" with a display of Fits-U Eyeglasses. We are willing to bet a Carnegie library to a second-hand pin

that no one will pass this store without knowing that the A. K. Hawkes Co. is in the optical business, and what's more, that they sell Fits-U Eyeglasses. Do you notice the large model of a Fits-U just above the card reading "New Style Fits-U's"? That is one of the large models we keep in stock and sell through jobbers for \$7.50 to those who have convenient window space to use them.

And, by the way, don't forget that we have a dandy toric window display showing twelve stages in the manufacture of a toric lens, which we'll send for \$1.00. We have sold a large number of them and everywhere they have made a big hit. Send for the little circular which describes it. 'Twill be well worth your time and a postage stamp.



Too many faults with poor mankind.

For, on the level, from yer heart,
He hasn't got the hundredth part

The opportunity to go

The limit in this fashion show—

With just his hat and coat and pants?

It don't begin to touch our chance.

'Sblood! When I see the million ways

A woman takes to rouse amaze—

The eighty billion bran' new jiggers

They stick each week upon their figgers,

Man's not so worse with all his flaws,

And I'm a woman to the claws!

By permission of the International News Service

Amoptico

Vol. III May, 1914 No. 2

Published Periodically by

American Optical Company
1833-1914

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Albert B. Wells Treasurer

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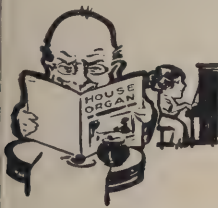
Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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Southbridge, Massachusetts, U. S. A.



EIGHTY

years' ex-
perience—
eighty years'
experience.

Yes, we ad-
mit, it is a
phrase we

repeat continually and you may
be "sick of it." "Why", says
someone, "of course a long ex-
perience is a good thing, but
when the time comes that the
originators of a business are sup-
planted by younger men, say
in thirty years, that firm has
about as long an experience as
one can really call a special ad-
vantage. After that length of
time, added years mean little.
The old men are gone, taking with
them much of the knowledge that
built the business, and where is
all your 'experience' then?"

If by that word experience was
meant simply the amount of ac-
cumulated facts crammed into
the heads of those who originated
the business then, we admit,
thirty years' experience would be

as useful as three hundred. But
to a Company that word has
other meanings. It stands, for
example, for a long list of patents,
only usable by that single Com-
pany. It stands for well guarded
manufacturing secrets (a thing
almost every concern has in these
days of strenuous competition)
for steadily advancing research
work, each successive operation
taking as its starting point the
most advanced results of the
previous experiments, and most of
all for a spirit—an "esprit de
corps"—with its roots bedded
deep in the honored traditions
of the business. Such a period of
successful business advances
brings with it certain marked-out
policies which must be followed.
A certain quality of goods is
necessary to maintain the "stan-
dard"—that intangible but never-
theless positive ideal to which all
goods must measure up.

As year succeeds year, this
steadily gathering experience
makes itself felt in the efficiency
with which the firm carries on its
business of manufacturing and
selling. "Line upon line, precept
upon precept, here a little, there
a little," the organization adds
to itself and grows. Old or in-
efficient methods are cut off.
New and progressive ones are
substituted.

American Optical Company
has gone through—is to-day go-
ing through—such a gradual
evolution. Our eighty years of
experience have laid down cer-
tain indelible rules relating to
quality of goods and conduct of
business which we do not lightly
break.

We have found that the policy
that pays is the one that satisfies.
And we place on the market only
those goods that meet the re-
quirements which have resulted
from our long experience.

And that is why we feature the
fact that we have had eighty
years of experience. It means
safety to you when you buy our
goods, and the surety that you
will find those goods satisfactory
from every standpoint. Specify
AOCO products in ordering from
your jobber, and be sure that you
get them.



YES, we're all after the dollars;
we admit it freely—in fact
quite cheerfully. Some of us chase
them one way, some another;
some wear a dark frown, others
chase by with a smile. A few
manage to catch them; most of
us do not—which of course ac-
counts for the worried expression.
We wish more folks in the optical
business were able to pursue the
chase ensconced in leather cush-
ioned seats with big pneumat-
ics whirling around underneath,
so we are going to give you a
little tip: the man who is most
likely to win the race and "collar
the dollar" is he who sells what
the public wants. Millions of
people are being reminded month-
ly of the fact that Fits-U Eye-
glasses are the best on the mar-
ket. And the result? Well, sell
Fits-U's and see. Before you
know it the elusive gold eagles
will be resting in the place where
you keep your bank account, and
the "worried look" will be left
for the other fellow.

Will You Do This For Us, and Yourself Too?

Every day we receive scores of
requests from dealers all over the
country for AOCO advertising
material, which must be imprinted
with their name and address be-
fore being sent out. It would very
materially simplify our work and
also insure a more satisfactory
result to you if you would be sure
to tell us each time exactly what
you wish printed. Write your
name and address legibly (this is
not as easy as it sounds) or print
it if you can, just as you wish it
to appear on the advertising ma-
terial. And remember that some-
times "words is long and space is
fleeting," so make your imprint
as short as possible.

Our printing department in-
forms us that they're as busy as
a one-armed paper hanger with
the brown-tail itch. But we don't
care. Send your requests in just
the same.



SELLING *the* GOODS



Window Sign Describing Fits-U Bearing Pads

It's been a long time coming, but it's here at last—a two-color window sign to call your customers' attention to the fact that sore noses and spectacles do not necessarily go together. Two-thirds of the battle of selling such little conveniences as these Fits-U Bearing Pads is in the way in which you are able to call attention to them. So you'll be glad to learn that with each package of Bearing Pads you buy there is a little coupon enclosed, which, when returned to us, entitles you to one of these signs.



AOCO Window Sign No. 5W17

The sign isn't all, though. We also have a very carefully worded form letter designed to arouse interest on the part of your customers who do not frequently visit your store, and we will send a copy of this letter together with the window sign.

There is a chance for a neat little profit on each pair of Fits-U Bearing Pads you sell and, as there is no work connected with carrying them, and such a small amount of money invested in them at most, they make a very attractive proposition. Everyone who wears spectacles is a potential purchaser of these comfort-giving pads.

Description	No. 3614	Per dozen
1-10 12K	Gold-filled arms and pads, Complete,	\$5.00
1-10 12K	Gold-filled arms with 10K Gold pads, Complete,	7.50
10K	Gold arms and pads, Complete,	10.00

What Are Kryptoks, Anyway?

Ever have that question fired at you? The chances are you've answered it and its variations so many times lately that you're beginning to be surprised at the ignorance of the public in general. Our new Kryptok leaflet just issued is designed to answer just that question, and several others besides. It is arranged in an unusual way, taking the form of a "catechism," as we've called it, for it first asks the

most vital questions about Kryptoks and then answers them clearly and concisely. Also, which is very important, it says that you are the dealer who *sells* Kryptoks. It's the kind of circular that will start people coming to you—and you won't need any help when that begins.

We will send a reasonable supply of these leaflets to you free, if you wish, with your name and address all imprinted on them. You will find this is the liveliest circular of its kind yet issued. Just send in your requests, and specify AOCO Kryptoks of your jobber.

How Do You Like This One?



Library Spectacles for Comfort in Reading

AOCO Electro No. A25

cians all over the county. For the live wire who is avoiding adversity by advertising in his local newspaper, we've got a new electrotape waiting. It's a good one. We admit it, blushing, of course, but nevertheless quite firmly, and with plenty of "Sang froid" (whatever that may be). In fact if it wasn't a good one, you wouldn't find any AOCO trade-mark on it.

If you want it badly enough to write for it, we shall be glad to send it to you free, but our wireless thoughtwave station is out of commission just now, and we can't hear you when you only *wish* you had it. A sheet containing six changes of "copy" is sent with it, which will enable you to use the electro a number of times, and provide each advertisement with plenty of variety and snap. It is the first we have issued designed to advertise Zyloware specs, and it should prove a good "business-getter" for you.

Branch of the American Optical Company at Chicago



Here are three views of our Chicago branch where the American Optical Company keeps open house. Our first offices in the city were opened about

the small amount of additional space which could be thus secured.

Mr. F. N. Kreissl, who has for many years been associated with the optical and jewelry trade in Chicago, is manager in charge, and with him are Mr. A. C. Witt, and Mr. C. A. Partenheimer, all of whom are very well known to the trade in Chicago and surrounding territory. Mr. R. S. Turner is the principal road representative from this branch.

The offices are beautifully located on the twelfth floor of the People's Gas Building, directly overlooking Lake Michigan, and presenting a view which is greatly admired by the many visitors.

We extend a cordial invitation to all oculists, optometrists and opticians to visit our offices whenever in Chicago, where a full line of our samples may be seen and demonstrated. A closer touch may thus be secured with our goods, which will enable you to order with better understanding from your jobber.

Goods of all descriptions
are on display



Part of
Stock Department

August 1st, 1909, in the Chicago Savings Bank Building, corner of State and Madison Avenue. In the spring of 1911 this office had become so popular with our customers that it was necessary for us to move to the People's Gas Building at 122 South Michigan Boulevard where we were able to obtain larger quarters and at the same time place in our office a stock of the more staple lines for which there was a tremendous and ever increasing demand in this territory. Originally the offices occupied two rooms, but in 1912 it was found necessary to remove the dividing walls, making one large room, in order to give us even



A beautiful view of Lake
Michigan is obtained
from these windows





An AOCo Colmascope Will Save You Many Broken Lenses

As every Optician knows there are two kinds of strain which may develop in a lens: physical and mechanical. The fact that it is impossible to detect either of these kinds of stresses by the eye alone is responsible for a very large per cent. of the breakages in lenses which so often seem to occur without rhyme or reason.

A physical strain, which is really a molecular stress, is created during the manufacture of the lens itself, either by insufficient annealing, improper cooling during the process of moulding, by bending, or fusing. The tendency of a lens to break varies directly with the degree of strain. In extreme cases, even a sudden change of weather may be sufficient to cause a break. A mechanical strain is one which has been set up after the lens is finished, and is usually due to improper setting in the strap in case of rimless work or to an overtight eyewire in rimmed work.

One of these two kinds of strains, physical or mechanical, is only too often present, and it is then obviously to the advantage of the optician or optometrist to be able to find it at once. This is especially true in the case of fused bifocals, which, because of the processes through which they have gone, are if anything more subject to strains of a physical nature than the ordinary lens.

When a lens is to be tested it is placed in the aperture of the instrument, and an electric light throws a strong illumination

upward through it. The eye is applied to the top of the instrument. Any strain in the lens then becomes immediately visible in the form of well marked and defined shadows, becoming more or less visible according to the amount of the strain.



AOCo Colmascope

In a theoretically perfect instrument no light would come through except in spots where the lens was strained. The efficiency of the instrument therefore becomes greater as the amount of light seen through the eyepiece diminishes. But perfection is not necessary for all practical purposes of examination and the Colmascope while not entirely eliminating light makes strains easily visible. The strained portions of the lens allow the light to pass through the instrument. Therefore the greater the strain, the greater the amount

of contrast between the strained and normal areas of the lens, the strained portions appearing light on a darker background.

Fig. No. 1 below shows the appearance of a lens which has severe physical strains. The advantages of being able to detect such a condition are obvious. Think of the amount of wasted work that could be saved if you were always sure that each lens you ground was without physical strains and could be relied upon not to break on some slight provocation.

Fig. No. 2 shows the appearance of a lens which is subject to a

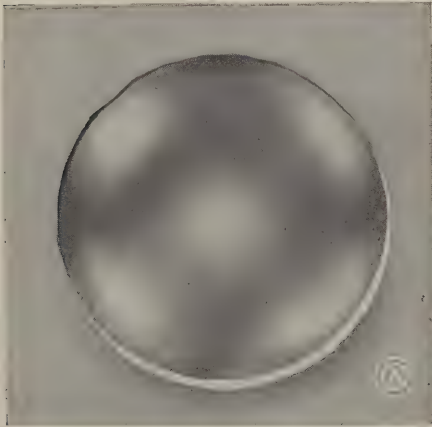


Figure No. 1

mechanical strain due to an improper adjustment of the strap. It is a comparatively simple matter to eliminate this strain by a slight adjustment of the screw or by remounting or refitting.

The use of the Colmascope will save a great amount of time, money and exasperation. It will insure a knowledge of each lens you grind and the way in which it is fitted to the frame. It means more perfect work and more satisfied customers.

Each instrument is beautifully finished in mahogany. Arranged for a 110 Volt circuit the price is \$18 of your jobber; for a 220 volt circuit, \$19.50. You need only talk with the man who uses one to be convinced of your need for it.



Figure No. 2

We take pleasure in announcing the completion of a new Trial Set Catalogue containing a full description and prices of all the various styles manufactured by the American Optical Company. Our foreign friends will be glad to know that it is being printed in a British and Spanish edition as well, which will be ready shortly.

Those of you who are contemplating the purchase of a trial set, whether office or traveling style, will find this book a very material aid to the proper selection of the style which best suits your needs. We will send one copy free to optometrists, oculists, or opticians who wish one. Requests should be written on your business stationery or sent with your business card enclosed.

AOC Co Lens Drilling, Past and Present



A smell of drilling fluid, (melange) greets us strongly as we open the door into the AOC Co lens drilling department, and a low, steady hum of machinery. All around us are "boards," as they are called, filled with the lenses that have been ground, polished and edged and are now ready for the drilling. On each board as they come into the department are twelve dozen lenses. They take up so little space that we hardly realize how many there are in the room as we glance around, but as we watch the speed and precision of the work we begin to gain some idea of the huge quantity of lenses that are being handled, and we are tempted to ask, "Where can they all go?"

When the boards come to this department, each containing twelve dozen lenses, they are stacked at one side and the contents shifted to boards which never leave the room, containing eight dozen. It would be impossible to handle the lenses on the original boards, for the drilling is carried on under a steady stream of melange, and the boards soon become saturated with it. If they were then sent through other departments, it would be impossible to keep anything dry and clean.

The operators sit with a board of the undrilled lenses at their right hand, and the lenses are placed under the drill with an accuracy and speed bespeaking long practice. A stream of melange from a large tank attached to the wall above our heads flows on the lenses during the drilling. The flow never ceases. As this lubricant runs into pans beneath the machines, it is collected and returned again to the tank by a force pump, thus forming a complete circuit carried on without waste.

Separate operatives carry on the broaching, and as one broacher can broach as many lenses as two or three operators can drill, a comparatively small number are sufficient for the work.

It would be perhaps not impossible, but exceedingly difficult, to duplicate the AOC Co drilling department, for it is so perfectly equipped and so efficiently carried on. It has required a long growth to arrive



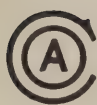
at the present result, and the experience thus gained shows in the way the work is handled. Many of the old-timers still working in "Lens-

dale" recall clearly the time twenty years ago when the drilling was a one-man affair, and the one man who did the drilling had two "strickers"—young boys—to help him. What would seem peculiar to us now is the fact that these strikers were paid from the driller's own pocket.

A driller twenty years ago was a privileged character who worked more or less according to his own inclination—which usually led him to work less rather than more. The work was never started till half past

eight or nine o'clock, when the driller strolled in as quite a man of leisure. Once in, he worked under a rule that was recognized by all men in that work, which forbade any driller to work more than seven or eight hours at a stretch. It was thought at this time that the fluid used during the drilling was liable to affect the operator and shorten his life, hence the rule. In spite of this, however, a driller could easily make more than is possible now, which in those days, when Mr. High-Cost-of-Living had not cut his first teeth, was a good salary for a working man. His pay was based on a rate of so much for every hole drilled, and a good driller was capable of drilling about 1700 holes a day.

As though such restrictions were not sufficient, it was definitely understood that if a driller did not feel like coming to work for a day, or two days, or a week, as the case might be, no one else would touch the work during his absence. The result was that important orders were often at a standstill while awaiting the return of the leisurely inclined operator. Diamond drills were still unheard of, all work being done with steel tools which were sharpened by the one who used them. Naturally it was impossible to keep them sharp for any length of time, and it was necessary to stop drilling about every half hour, take the drills to a revolving lead wheel and there



resharpen them. A small oil cup was placed over each drilling machine, and as the lubricant flowed off the lens being drilled, it was collected in a pan underneath the machine and returned to the cup.

The machines themselves were comparatively crude. It was necessary to use two, one to drill the first half of a hole, the other to finish the hole from the other side. And while the lens was held between movable jaws quite similar to those used to-day, there was no support for its centre, so the pressure necessary for drilling very frequently cracked the lenses. As many as six dozen lenses were sometimes broken in the course of one day's work.

Every workman did his own broaching and washing. The drilling work ceased around four o'clock to enable him to finish all the lenses drilled during the day.

With the advent of diamond drills and more

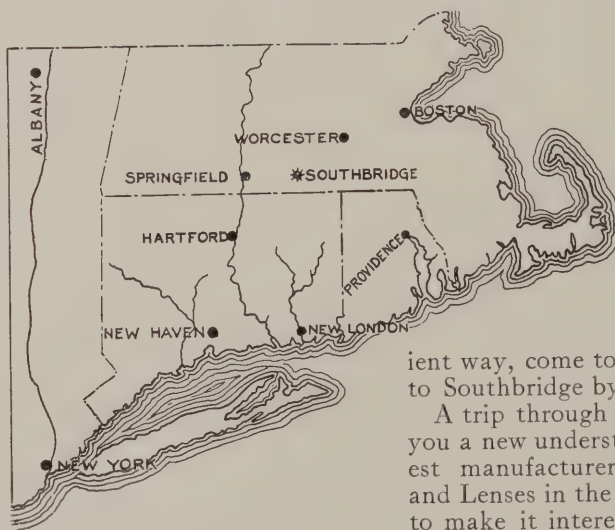
modern factory processes, a radical change took place. The gentlemanly drillers were replaced by woman operators who were thoroughly competent to do the light work, and who did not find it necessary to take "holidays" on special occasions. One machine was made to do the work formerly done by two, and the result of the many improvements was a great increase in the speed with which lenses could be drilled.

The AOCo uses in its own work practically the same drilling and broaching machines which it offers for sale to you. Our wealth of experience has enabled us to correct and strengthen weak points and even improve the stronger ones until our machines have become the best for the work of every optometrist and optician. It will be worth your while to investigate these machines thoroughly.



Our Latch-string Is Always Out—Come and See Us

Do you know, it almost hurts our pride when we have to print a special map to show where Southbridge is. But we realize that there may still be a few of our very good friends in California or Texas or Oregon who, although they have seen "Southbridge, Mass.," upon our advertisements, for a good many years, are still a little bit uncertain as to our exact location, so we feel compelled to do it. At any rate, here we are, waiting to receive callers with our best "bib and tucker" on. We are always "at home"—except on the Fourth of July or Christmas or some equally special occasion.



If you come by auto you will have no difficulty in locating us, twenty miles from Worcester or fifty miles from Springfield, over excellent roads. If your auto is still in phantom merely, a branch of the N. Y., N. H. & H. R. R. (now guaranteed to stand without hitching) reaches us.

From Boston, you may either come direct by train or, usually a more convenient way, come to Worcester by train and then to Southbridge by trolley.

A trip through the AOCo factories will give you a new understanding of the phrase "Largest manufacturers of Spectacles, Eyeglasses and Lenses in the World." We shall endeavor to make it interesting for you. So just drop us a line when you plan to come and we'll be glad to receive you.

Reduction in Price of Ovalex Fits-U Eyeglass Mountings

We are glad to announce a reduction in the price of Ovalex Fits-U Eyeglass Mountings. Prices are now the same for both Ovalex and Coil Spring Fits-U's given below, and your jobbers will fill your orders at these new prices

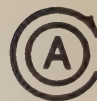
OVALEX FITS-U EYEGLASS MOUNTINGS

No. 03112 with patented Short P. D. Bridge and Rocking Upper Pad Guard

1/10 12K Gold-filled.....	Per Dozen \$7.00
10K Gold.....	Per Dozen 16.50
1/10 12K Gold-filled Fitting Sets of one dozen each.....	7.25

Push the Ovalex as your leader. It means more profit.

What the "Other Man" Says About Us



It is pleasant sometimes to stop in our mad career and hear what the "other fellow" has to say on topics about which we have our own opinion. At least we find it so, and that feeling always gives an added interest as we read the letters that are sent to us by users of our goods. Coming as they do, bearing the postage stamps of practically every nation in the world we are able to get a breadth and variety of opinions that is quite beyond the possibilities of any concern with a comparatively local distribution. Here is Mr. A. Proctor's opinion of us as expressed in a recent letter:

Some time ago I requested one of your late Catalogues, and in due time I received the same. I have since taken pleasure in looking over its contents from time to time, and showing it to my friends and customers. I have at times received many different kinds of catalogues, etc., but I have NEVER seen any firm or company put out such HIGH GRADE illustrations; not only in this, your late Catalogue, but in anything that you people attempt to show, it has to me always been a work of Art. Naturally I concluded that you could make better goods than the other fellow and I commenced handling your goods, and I am only pleased to say that I have only PRAISE and COMMENDABLE words for anything that bears the Mark AOC of the American Optical Company.—A. PROCTOR, Lincoln, Nebr.

We sent a general catalogue recently to Mr. Will Pfaff, McKeesport, Pa., and this is the letter he wrote us about it.

Your catalogue recently received and it certainly fills a long felt want. The illustrations and descriptions are very good indeed. Much of your product I carry continually in stock and prefer it to all other makes. I am sure this catalogue will be a great help to me in ordering stock and sincerely hope you will be in part at least repaid for the enormous expense to which you have been placed in putting out such a fine book. Wishing you continued success which you surely deserve, I am sincerely yours—WILL PFAFF.

From Boston comes this letter. It speaks for itself:

We acknowledge with thanks the receipt of your catalogue. Please allow us to commend you on the completeness with which you have placed your goods before the optician. As we are a new firm, we consider this a valuable reference to us in making our selection of material, and we shall use AOC goods on every possible occasion.—W. F. UPHAM & Co.

The bouquets we receive relative to our "Dealer Help" advertising arrive in almost every mail, but numerous as they are



each is appreciated fully. Our records show that a steadily increasing number of optometrists and opticians are making use of this advertising service.

Some time ago we received a quantity of blotters and also cards for street car advertising. These cards certainly seem to be business getters. We have displayed them in our windows and they do get attention; will put them in the cars the 1st of January.—MEYER OPT. Co., Stockton, Cal.

The slide number 9 which Mr. Eames of Gardner, Mass., refers to below is the lantern slide advertised in our December Amoptico. This is what he says of our service:

Your slide No. 9, also blotters, received recently, are proving more than satisfactory as the increased demand for Fits-U mtgs. has obliged me to increase my orders for the same very much. Furthermore, the comfort and ease of adjustment continue the advertisement.

But what do the "Others" say of our goods themselves? Read.

I am handling Fits-U's exclusively and find that they give better satisfaction than any others I have ever handled.—PROF. W. CLAY DAVIS, Peotone, Ill.

I have been prescribing Fits-U eyeglasses for nearly four years and I find them superior to any other in elegance and fit and in staying qualities.

I stand behind the Fits-U and I know the American Optical Company will stand behind us both.—W. D. STRAHL, Camas, Wash.

Have bought of the same jobbing house, — — —, since 1890, and give preference to the AOC because am not looking for "bargains," but thoroughly reliable goods; all my Rx specify "The best make only." Under no consideration will I handle inferior goods, in the optical line especially.—W. A. GRABER, Sharpville, Pa.

Things are surely moving these days in Mexico, but not so seriously as to entirely stop all optical work. Here is an excerpt from a letter of recent date from a large jobber located in that country.

As I expressed myself in one of my former letters to this company, my great success during my first year of being established was principally due to the unexcelled products of your company and the most courteous manner and promptness with which my orders have always been attended.

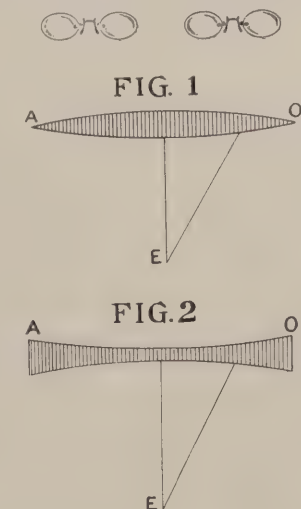
These letters are picked at random from the many we are constantly receiving. They reflect the "Other Fellow's" point of view. It may be that a thorough acquaintance with our goods will give you that point of view, too.

Captain Wollaston's Patent

Did you know that the idea of
Meniscus Lenses is over
100 years old?

It is well for us who think we are so wise in our own day and generation to turn back to history occasionally. There is nothing like it to make us realize what a small part in the drama of the world we are playing, and how little we are adding to its store of knowledge. Did you know that in 1804 a Mr. William H. Wollaston patented the idea of *Meniscus Lenses*? Read this:

British patent No. 2752, A. D. 1804. Granted to William H. Wollaston. The object of my invention is to remedy the following defect which has been observed in *spectacles* heretofore in use, viz. that no objects appear distinct



through them but such as are seen through the centers of the glasses, or nearly so, but are indistinct in proportion to the distance of the part of the glass through which they are seen from the center, whether sideways or up-

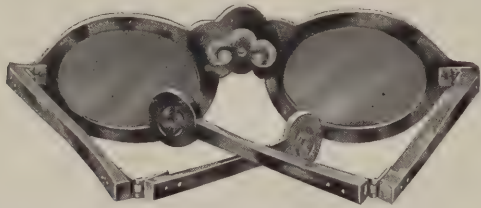
wards or downwards, that is to say the indistinctness is greater in proportion as the rays of light passing from an object to the eye pass more obliquely through the glass, as is represented by the lines E, O, in Figs. 1 and 2 in which E is the place of the eye and AO in each is a section of a spectacle glass of the common defective construction. I have found that the defect above mentioned may be remedied by means unnoticed by the best practical opticians and contrary to the opinions of the most celebrated writers on optical subjects. Having observed that the portion of glass employed in any one position of the eye is small, I perceived that by making the substance of a glass curved in the manner of a hollow globe each portion of it might be situated nearly at right angles to the direction of the sight and would thereby render lateral objects distinct without impairing the distinctness at the center.

Then follows a description of the present meniscus form of lens on which a patent was allowed.

The only trouble was that Mr. Wollaston was about 100 years ahead of his time. It remained for this generation to carry into actual execution the ideas conceived so long ago.

Which Are You Selling?

This picture is of a pair of Chinese spectacles now lying in our exhibition room. They were made many, many years ago. The lower picture shows a pair of Gold Fits-U Eyeglasses taken from AOCo stock.



Between the two examples of the art of their respective times lies a long, long history of development and change—of progress. The Chinese spectacle probably stands for perfection in the optical art of its period; the Fits-U eyeglass, too, stands as the highest attainment in the optical construction of to-day.

To compare the two would be ridiculous. They represent different ideals. Yet in spite of the fact that the older one is the product of totally different aims and purposes, there are still many optometrists and opticians who are buying, and selling to their customers, John Chinaman's spectacles.

No, of course we do not mean that *literally*; but there are many men who have allowed themselves to drift so far behind the manufacturing improvements of to-day that they are not selling the eyeglass and spectacle goods they should.

Gold Fits-U Eyeglasses are the highest attainment in modern fingerpiece eyeglass construction, made to meet the demands of twentieth century purchasers. They are the kind you should sell. It is impossible in the limited space at our disposal to illustrate all the various styles we make; but your jobber can give you full particulars. Here are the catalogue numbers of the styles in which they are made, and the prices at which they are sold to you:



FITS-U MOUNTINGS AND FRAMES (Patented)

Nos. 3101, 3103, 3111, 3113, 3123, 3151, 3161, 3171, 3181, 3112.

Trade Price Per Doz.

Mount- ings	10K Gold, Rigid or Rocking Guards	\$16.50
	14K Gold, " " " "	24.50
Frames	10K Gold, Rigid or Rocking Guards	30.00
	14K Gold, " " " "	42.00

Patented short bridge construction supplied if desired. To specify, place an o before catalogue numbers given above, as o3101, o3103, etc.

The man who invented bifocals

did not lap one surface over another. He actually produced a more perfect ophthalmic result than is obtained to-day by cementing. The old perfection bifocal was a mighty good lens.

Not long after Franklin

experiments were begun on the production of a one-piece lens — two perfect spherical curves on a single surface. All attempts failed. Meantime other forms of bifocals made by combining two pieces of glass by cementing or otherwise were successfully marketed as being more mechanically perfect.

The Uni-Bifo Luxe Lens*

was finally made a success. Two curves are now ground by such ingenious methods and such precise machinery that no line of aberration is apparent between the two. The perfect bifocal of a single piece of glass is a fact.

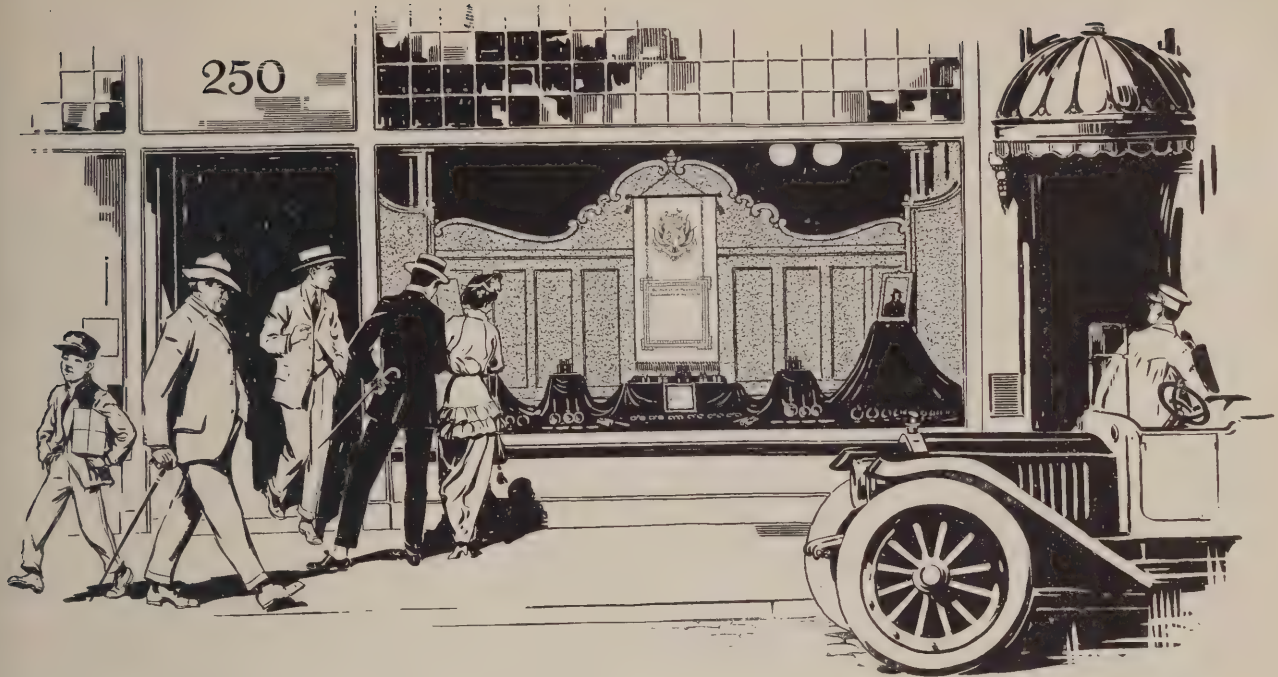
The Uni-Bifo Luxe Lens

represents a most wonderful achievement in ophthalmic lens grinding. It is theoretically and practically the perfect bifocal lens. It absolutely eliminates many of the objections to the ordinary forms. There is a total absence of colors.

The Uni-Bifo Luxe Lens

is now being supplied by the American Optical Company through licensed jobbers. You can order this lens on prescription with either of two sizes of reading portion, 19mm. round or 30 x 15 mm. made in toric form only.

*Reg. in U. S. Pat. Off.



Plan to Enter These Leaders of the World Contests

In this issue of AMOPTICO we are able to furnish our readers with more concrete details of the big Window Display and Idea Letter Contests of the Rice Leaders of the World Association, in which the American Optical Company holds the representation of the Optical Goods manufacturing industry.

These prize contests as a merchandizing factor will have the greatest possible interest for every Optical Dealer in the country, and all should take this excellent opportunity to gather further prestige and increased trade.

The Association banner bearing the insignia in colors, together with list of members, must form part of every window display to be eligible for the contest. The banner will be mailed free to intending contestants, upon application to the "Window Display Department," Rice Leaders of the World Association, 358 Fifth Avenue, New York City, when the contest opens.

Consider the magnitude of this opportunity. Nearly five hundred cash prizes, ranging from \$2,000.00 down, to be awarded to dealers making window displays of any of the products of members of the Association.

The contest remains open for twelve months, commencing May 16, 1914, and ending May 15, 1915. Each display to be eligible must be exhibited for at least one week.

Photographs of the display—mailed flat—bearing on the back the name of the store in which the display was made, address and date of display, photographer's name and contestant's name, to be mailed to the "Window Display Department," Rice Leaders of the World Association, 358 Fifth Avenue, New York City, on or before May 15, 1915. It is desirable that the photographs be 6 x 8, or as near that size as possible, but this is not an indispensable condition.

Here are a few pointers in regard to effective window displays:

A crowded window is seldom a good window.

As a general rule simplicity means effectiveness, and effectiveness in this case means "SALES."

Arrange goods in groups. Leave open spaces.

Goods should be displayed with natural surroundings.

The background of a window should be contrasting, but not dominating.

A jarring note in the color scheme, or any part of a window display, kills sales.

A window display should show the advantage of the goods rather than the cleverness of the trimmer.

A window display should be arranged to attract the attention of the passer-by *before* he arrives immediately in front of the store.

When he arrives in front of the store the window display should hold attention.

Motion in a window is a powerful means of attracting attention.

Human interest, when rightly used in a window display, adds much to its drawing power.

Do not detract from goods by placing glaring lights in the window.

When possible, have lights hidden so they bring out display rather than fixtures.

Originality and good taste are the keys to effective window displays.

A display which is seasonable, taking advantage of important events or local happenings, will create more interest than one not having that special appeal.

While the Window Display Contest is open, the Rice Leaders of the World Association will also run another contest for the public. Cash prizes amounting to \$10,000.00 will be given for Idea Letters upon the superior merits or any new uses of any member's products, or suggestions for new business ideas pertaining to production or sales.

There will be 3,500 prizes, ranging from \$1,000.00 down.

As mentioned in the last issue of AMOPTICO, the people will enter your store to inquire details of the AOCo's products. The public announcements of the Association directly invite the public to do this.

People generally are now becoming familiar with the emblem of the Association; they recognize it to be the token by which members of the Association and their products may be identified.

They know that the privilege of using this emblem has been bestowed upon certain manufacturers whose record of achievement has won for them such distinction.

They know as a logical sequence that the products of members of the Association must be desirable.

It is earnestly hoped that all dealers in AOCo's products will seize this opportunity to further their prestige and the confidence of their customers, with obvious advantages to all concerned.



AOC Co Benches Equipped with M21 Surface Grinding Machines

This photograph shows a surface grinding bench recently built for a customer in St. Louis. It represents the last word in surface grinding equipment where economy of space is an important requisite. It greatly increased the surface grinding capacity of a shop that was formerly badly crowded, and now allows the men plenty of room.

We have developed these M21 surface grinding machines to meet the demand for a simple, inexpensive outfit, which can be easily and cheaply repaired, and which requires little power. They can be furnished singly or in batteries of any required number. For convenience in shipping, benches are constructed in sections not over seven feet long, and may be bolted together to make up the required length. Spindles are regularly placed 30 inches apart from centre to centre, each supplied with single speed countershafts operated by a foot treadle.

These machines can also be arranged with $\frac{1}{4}$ H. P. motor belted directly to each spindle, as shown on page 309 of the AOC Co general catalogue. This is possibly nearest the ideal method, as no power whatever is consumed by countershafts, belts, etc., when the machine is idle. This so-called friction load ordinarily consumes a large percentage of the actual power. When a motor is used for each spindle the friction load is almost negligible.

Write to your jobber or to us for special literature and full information about this AOC Co M21 Surface Grinding machine. He will gladly furnish estimates for either style of construction and for any desired capacity.

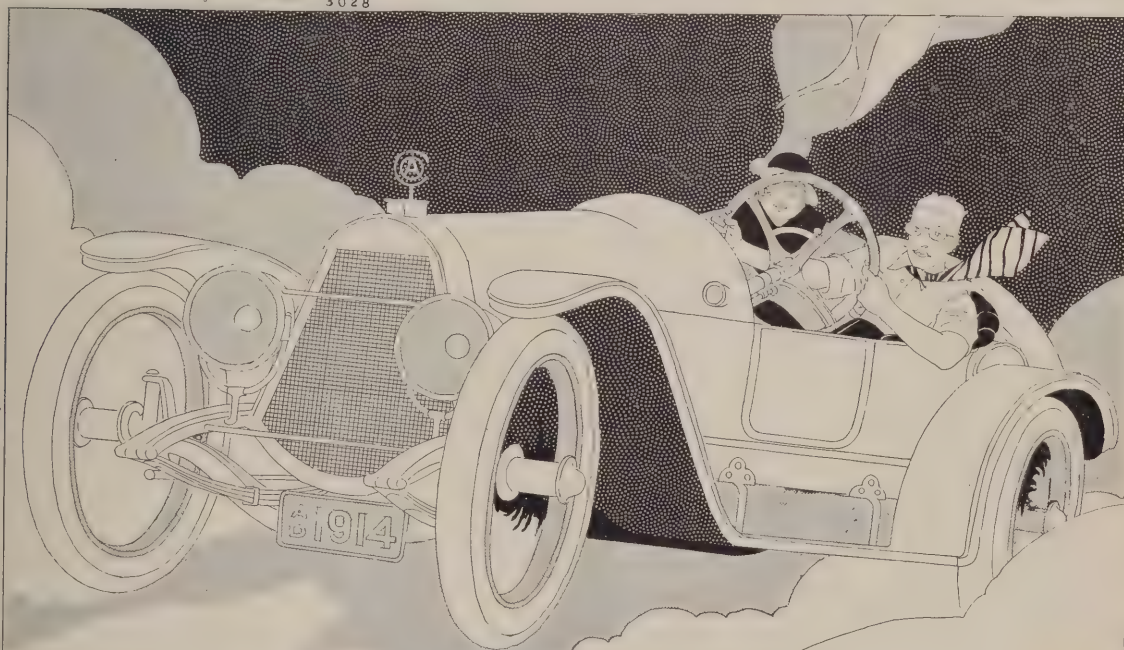
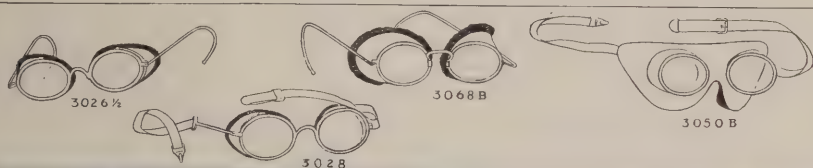
Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

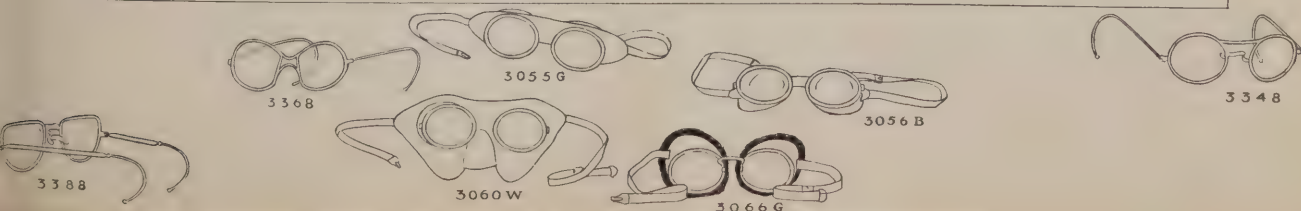
Vol. 3

June, 1914

No. III



Be sure to read
"The Story of
AOC Co Goggles"
in this number





AOCO UNI-BIFO

REG. IN U. S. PAT. OFF.

Onepiece Ophthalmic Bifocal Lenses

THE PERFECT BIFOCAL, COVERED BY EXCLUSIVE PATENTS

A bifocal that stands as the goal toward which lens manufacturers have worked for years. Ground from one single solid piece of hard crown glass. The reading portion is practically invisible. There is no break in the smooth surface of the lens. In fact your customers can now enjoy every benefit of bifocal lenses with as much comfort and ease as can be obtained with single focus lenses.

AOCO Uni-Bifo blanks are made with two sizes of reading portions, 19 mm. (round) and 30 x 15 mm. (crescent), with the bifocal side entirely finished. The other surface may be ground for the proper correction and lenses *made as thin as desired*.

You have wished for perfect bifocal lenses. Here they are, with sales possibilities limited only by your own efforts.

Note the following virtues AOCO Uni-Bifo lenses possess:

- Scientifically produced to meet highest ophthalmic requirements.
- Perfect bifocal ground from one piece of glass.
- Bifocal surfaces perfectly merged.
- Dividing line practically invisible.
- No color troubles.
- Thinner than any other bifocals.
- Two sizes of reading portion available.
- One side only to be surfaced.
- Hard glass, scratch resisting.

Sample lenses may be obtained from Jobbers holding finishing licenses. Ask for **AOCO** Uni-Bifo lenses. Send for the AOCO copyrighted Bifocal Protractor, with suggestions for finishing Uni-Bifo One-piece Bifocals.

Amoptico



Why Strong Contra-Generic Lenses* of Equal Power Fail to Neutralize Each Other

Revised reprint from Annales d'Oculistique (English Ed.) November, 1895

By Charles F. Prentice, M.E., New York

Inasmuch as inquiries are frequently made of us with reference to the neutralization of Lenses, we have republished the following article written by Mr. Charles F. Prentice, M.E., of New York City. This article was written after most careful consideration and experiments of the writer, and we have accepted the conclusions arrived at as correct. Our Lenses are ground upon this principle and should be tested accordingly. In neutralizing we always hold the convex lens next to the eye. If Lenses are made upon the opposite principle, they should not be expected to neutralize with AOCo standards.—American Optical Company.

Some time ago Mr. George W. Wells, late president of the American Optical Company, Southbridge, Mass., requested me to give this subject attention, and, as it contains features of mutual interest to oculists and opticians, I have considered it of sufficient importance to give the results of my investigation publicity.

In ophthalmic practice it is customary to determine the power of a lens by what is known as "neutralization." It is here proposed to show why it is that this method is only strictly applicable to lenses that are weaker than 9 dioptries. The power of a lens, as is well known, is dependent upon three factors—the radius of curvature, index of refraction and thickness of glass. The latter we are taught to consider a negligible quantity, since it is generally infinitely small in proportion to the focal distances of lenses that are used in spectacles. This is only justified in its application to *concave* lenses, since all concave lenses, between 0.25 D. and 20 D., can be made of the same infinite thinness in the center. In convex lenses, however, we meet with an unavoidable increase in thickness, which becomes of sufficient magnitude in lenses above 8 D. to conflict with the hypothesis referred to. When the element of thickness is considered, we have the formula for bi-spherical lenses of equal curvatures:

$$r = f(n-1) + \sqrt{\frac{(nf-e)f(n-1)^2}{n}}, \quad \text{I.}$$

wherein r is the radius of curvature, n the index of refraction, f the focal length, and e the thickness, in contradistinction to the formula for neglected thickness, wherein

$$r = 2f(n-1). \quad \text{II.}$$

It is therefore evident that the radius of curvature will be a different one for bi-convex lenses, in which thickness is considered, from that of bi-concave lenses, of the same power, having no thickness.

The accompanying diagram, Fig. 1, representing a bi-convex and a bi-concave lens of *identical* curvatures, clearly shows that they cannot optically neutralize each other, as they really only constitute the central portion of a much larger periscopic *convex* lens, and which our imagination can construct upon the dotted lines that are continued to their intersections at a and b .

The diagram also shows that the power of the imaginary meniscus must *increase* with an increase in the thickness of the bi-convex lens, because the anterior and posterior surfaces of the meniscus will be rendered more oblique to each other as their respective centers of curvature, c_1 and c_2 , are separated to provide an increased thickness. The nearest approach to neutralization will therefore be secured when the centers of curvature, c_1 and c_2 , are as close together as possible, thus making the bi-convex lens L exceedingly small and thin, as shown in Fig. 2.

The lenses in our trial cases are, however, too large

*Lenses of opposite character—convex and concave. First used in a monograph: Dioptric Formulae for Combined Cylindrical Lenses, by Charles F. Prentice, M. E., New York, 1888.



to secure even this *approximate* neutralization. Their diameter of necessity determines the thickness, which must increase with the power. For

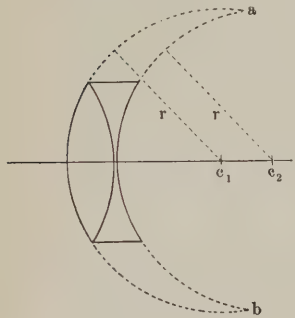


Figure 1

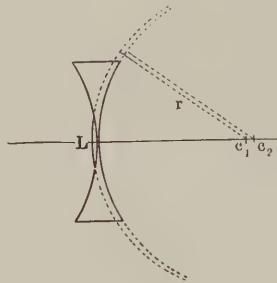


Figure 2

instance, in a 20 D. convex trial-case lens of 3.5 centimeters diameter we find the minimum thickness to be 0.75 centimeters. If, therefore, in Formula I., we place $e = 0.75$, $n = 1.5$, and $f = 5$ centimeters, we obtain 4.87 centimeters as the value of r , whereas, for a 20 D. concave lens, according to Formula II., we find $r = 5$ centimeters.

As the radius is shorter for the convex than lens for the concave lens of the same power, it is evident that their surfaces will actually only touch in the center, as exaggeratedly shown in Fig. 3.

Besides, the outer surface, $s_1 s_1$, of the convex lens will be even more oblique relatively to the outer one, $s_2' s_2$, of the concave lens, so that the lenses form the center of a stronger meniscus than shown in Fig. 1. Or, viewing it in another light: a parallel ray, i , that is incident to the concave lens, is refracted by it, passing into the convex lens, as if emanating from the virtual focal point, F , of the concave lens, which is outside of the focal point, F_2 , of the convex lens, Fig. 4.

Such rays, e , will therefore be rendered convergent, instead of parallel, in passing out of the convex lens, showing that neutralization does not exist.

The focal distance, in infinitely thin lenses, is counted from a single point, s , on the optical axis in the centre of the lens, whereas in lenses of appreciable thickness it is counted from the *posterior principal point*, h_2 , within the lens. In a bi-convex lens of equal curvatures, made of glass, with an index of refraction $n = 1.5$, it has been demonstrated that the principal points, h_1 and h_2 , are separated by a distance equal to one-third of the lens thickness (†). It is therefore obvious that the focal distance of the

convex lens will have to be increased by one-third of its thickness, so as to have F_2 and F coincide for the purpose of producing neutralization.

With a minimum thickness equal to 0.75 cm., we must, consequently, add 0.25 to the focal distance 5, making 5.25 the focal distance of the convex lens. This corresponds to a refraction of 19.047 dioptries. Consequently, a 19.047 convex lens of 0.75 cm. thickness neutralizes a 20 D. concave lens of no thickness. To be more accurate, we should actually allow for one millimeter thickness of the concave lens. This would result in the convex lens being even somewhat weaker than 19.047 dioptries.

However, according to Formula I., a 19.047 D. convex lens of 0.75 cm. thickness should have a radius $r = 5.121$ cm., so that the superposed neutralizing lenses would actually touch each other at their edges, instead of at the center, as exaggeratedly shown in Fig. 5.

Furthermore, any additional increase in the thickness of the convex lens will be associated with an increase in the distance $h_2 F$, and will therefore call for a corresponding decrease in the power of the convex lens to produce neutralization.

Thus, the tendency will invariably be to overestimate the power of the convex lens when an effort is made to determine its power by that of a concave one which neutralizes it.

Calculation shows that discrepancies in neutralization varying between 0.25 and 1 D. exist in the entire series of convex lenses between 9 and 20 D.

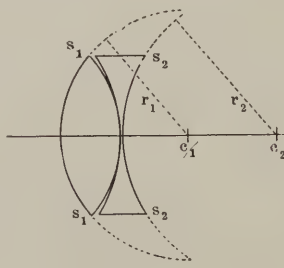


Figure 3

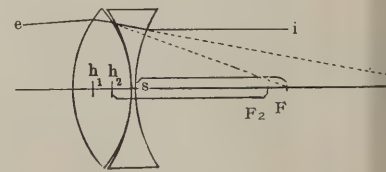


Figure 4

It consequently also follows that the indiscriminate addition of lenses, so frequently practiced during the subjective method of examination of ocular refraction, is not permissible with lenses of high power.

In other words, lenses of high power are no more capable of being algebraically combined than prisms of high power, a fault for which the practicability of the prism-dioptre was so severely criticised. The same logic, therefore, applies to lenses that was mentioned in my paper on the Prismometric Scale (‡), to wit:

(†) Müller Pouillet's *Lehrbuch der Physik*, page 160. Braunschweig, 1894.

(‡) See American Journal of Ophthalmology, St. Louis, Oct., 1891.

"The desire to multiply any *unit in optics* should be curbed by a knowledge of the fact that all the fundamental optical laws are based upon the assumption and acceptance of *values of limited magnitude*, and that there is therefore apt to be a point where *unreasonable* multiplication of an optical unit will contradict the actually existing optical phenomenon."

The general, though erroneous, impression that the entire series of corresponding contra-generic

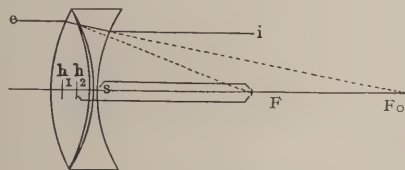


Figure 5

lenses should neutralize each other has gained such credence that lens manufacturers have allowed themselves to be swayed by this popular opinion, and as a result have justifiably adopted the principle of making the convex weaker than the concave lenses, so as to meet the demand for neutralization. As has been shown, a 20 D. convex lens should have a shorter radius than a concave one of the same power, yet examination of many trial cases will reveal the fact that the reverse is the case, when the surfaces are measured by a suitable gauge. We can, however, gain no reliable information regarding the power of a strong convex lens by measurement of its surfaces, since two lenses of the same curvature, but of different thickness, will not be of the same power. As the thickness increases, the power will diminish for one and the same curvature.

This is shown in Fig. 6.

The incident ray, i , is refracted by the anterior surface of the lens $a b$ in the direction $x F_1$, and by the posterior surface at y to the focus F . If the thickness be increased so as to place the posterior surface at $c d$, then $x F_1$ will be refracted at the posterior surface at z to F_0 , parallel to $y F$, since the surface $c d$ is of the same radius as $a b$.

The focal distance $H_2 F_0$, of the thicker lens, is not appreciably different from $h_2 F$ of the thinner lens; in fact, the difference between these distances scarcely amounts to 0.05 cm., for a curvature of 5 cm. in lenses of 0.75 and 1 cm. thickness. Nevertheless, such a difference would be appreciated by the eye in neutralizing. The question then arises: by what method should we determine the power of strong lenses? Indeed, nothing seems to remain but to

measure them by a focusing screen upon a graduated bar, care being taken to count the focal distance from the posterior principal point *within* the lens. While concave lenses can be similarly measured, yet this is somewhat difficult, and not entirely satisfactory. The so-called "lens-measure" is indeed preferable *only for concave lenses*, since they alone are of negligible thickness, but for convex lenses above 8 dioptries this instrument is unreliable.

It will, however, be more or less inconvenient to

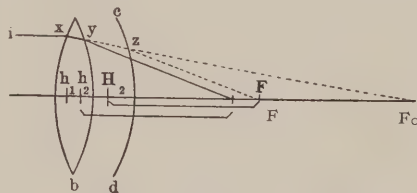


Figure 6

have individually different methods of measurement for convex and concave lenses. Unless, therefore, we are prepared to make some radical change, we shall do well to adhere to the practice of neutralization, bearing in mind the errors we commit by so doing. When convex lenses stronger than 8 dioptries are prescribed, and they are measured by neutralization with a concave lens, we should remember that they are always weaker than the dioptries indicated by the concave lens. In short, *the convex lenses in our trial cases are not what they are numbered in dioptries.*

So long, however, as manufacturers are agreed that the convex lenses they produce shall neutralize with standard *concave* lenses, we shall at least have a uniformity which will ensure the convex lenses in spectacles being duplicates of those in the trial case; *provided*, also, that the convex lenses of any given number are always of the same uniform thickness. This thickness, in every instance, should be the least which can be given to the lens of 3.5 cm. standard diameter.



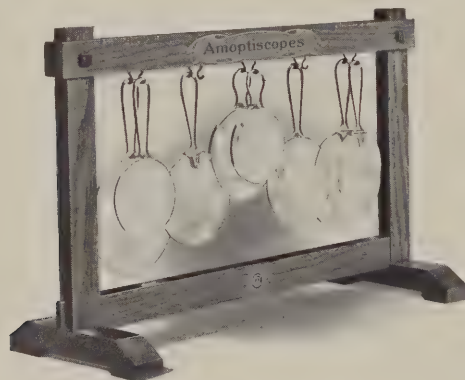
Send Your Suggestions and New Ideas to Us

We are always interested in the possibilities of new inventions along optical lines, and if you see any way of improving our present lines or think that some special lines added might be of advantage, let us know. Any new suggestions will be considered carefully, and all correspondence held in strictest confidence, so that the rights of the inventor may be carefully safeguarded.

Amoptico

Magnify the Little Things With AOCo Amoptiscopes

When mother looks for the splinter in baby's finger or examines a piece of crepe de chine that might look well made up á la Parisienne; when father tries to read a bit of fine print, or sister wants



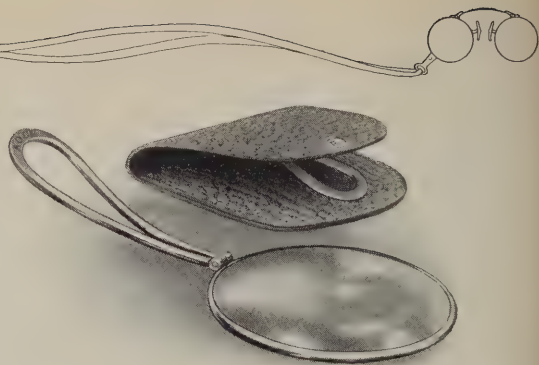
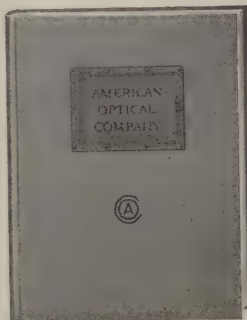
Special AOCo Display Stand

to examine the geranium that is just opening, why then a magnifying glass is a pretty useful thing to have. So when mother or father or sister begins to look for one, then's the time you should have Amoptiscopes in your window or on your show case. We make a special fumed oak, wax finished stand, such as is shown above, to give you a favorable opportunity to show their lightness and convenience in various sizes. These stands are sold by your jobber at \$1.25 each.

AOCo Amoptiscopes are made in both folding and non-folding styles. They are sold with flexible seal grain leather cases, and the prices quoted here include them. Order now of your jobber.

Eventually—Why Not Now?

There is one very large national advertiser who continually uses the phrase "Eventually—Why not Now?" in its publicity. The expression seems so aptly to fit our own wishes in regard to that new general catalogue of ours that we hereby make bold to use it. Eventually you'll have an AOCo general catalogue, so why not now? It isn't one of those things which you can "do without for awhile" for we will send you one if you will send us your request on



Patent Pending
AOCo Folding Amoptiscope No. 2952

WITH RIMS (including Cases)

Diameter	Focus	Alumnico		Gold-Filled	
		Cat. No.	Per Doz.	Cat. No.	Per Doz.
51 mm. (2 in.)	+ 10.00	1952	4.60	3952	7.25
		1962		3962	
51 mm. (2 in.)	+ 13.00	1952	4.95	3952	7.60
		1962		3962	
63 mm. (2½ in.)	+ 8.00	1952½	5.35	3952½	8.00
		1962½		3962½	
76 mm. (3 in.)	+ 6.50	1953	6.00	3953	8.65
		1963		3963	

RIMLESS (including Cases)

Diameter	Focus	Alumnico		Gold-Filled	
		Cat. No.	Per Doz.	Cat. No.	Per Doz.
51 mm. (2 in.)	+ 10.00	1972	\$6.25	3972	\$8.90
		1992		3992	
51 mm. (2 in.)	+ 13.00	1972	6.60	3972	9.25
		1992		3992	
63 mm. (2½ in.)	+ 8.00	1972½	7.00	3972½	9.65
		1992½		3992½	
76 mm. (3 in.)	+ 6.50	1973	7.65	3973	10.30
		1993		3993	

FOLDING (including Cases)

Diameter	Focus	Alumnico		Gold-Filled	
		Cat. No.	Per Doz.	Cat. No.	Per Doz.
51 mm. (2 in.)	+ 10.00	2952	\$5.75	4952	\$8.50

In ordering, state quantity, catalogue number and focus desired. Prices above include unlined flexible leather cases with button flap.

your regular business stationary or enclose your business card. It will be a tremendous help to you because of its beautiful illustrations, its clear descriptions, and its inclusiveness. No expense was spared to make it the best work of its kind ever issued, and as a result it is the best. It should be given a prominent place on your desk.

Don't forget the new Kryptok folders we announced in our April issue. Try circularizing your mailing list with them. We will send a reasonable supply of them to you free, with your own name imprinted on them. Requests have been coming in for them pretty fast, but we still have time to fill your own. So send it along to us and boom your Kryptok lens business. And be sure your next order goes to your jobber with AOCo Kryptok blanks specified.

The \$15,000 Window Dressing Contest is On!

This is the time to enter

BY INVITATION
MEMBER OF



Every Dealer handling AOCO products should enter the \$15,000.00 Window Display Contest of the Rice Leaders of the World Association.

The national interest awakened by the widespread activities of the Association affords every dealer in American Optical Com-

pany products an exceptional opportunity to further the prestige of his store and to secure increased trade.

The Emblem of the Association has been put before the public in every conceivable way many millions of times. It represents the highest principles of business integrity. It standardizes the high quality of American Optical Company products and those of other Members of the Association.

All Members are known to have builded their business upon Honor, Quality, Strength and Service.

Your customers know this.

Your customers are aware that the goods produced by the AOCO, a Member of the Association, are desirable. AOCO products displayed in your store with the Emblem will be at once recognized as produced by a concern whose business integrity is unquestioned.

Capitalize this enthusiasm and interest.

Show your customers that you deal in the products of the American Optical Company, a recognized leading manufacturer. Reap the reward of increased prestige for your business and, incidentally, secure one of the many cash prizes.

Briefly summarized, these are the reasons why you should enthusiastically enter the Rice Leaders of the World Association Window Display Cash Prize Contest:

1. An attractive window display of AOCO goods means increased trade.
2. It will gratify your customers to know that you also are interested in these Contests.

3. You will be able to help your customers with information about AOCO products with which they may not be personally familiar, which particulars they will require as contestants in the \$10,000.00 Public Idea Letter Contest. This will be good business for you.

4. You will further increase the prestige of your store, by featuring the fact that you handle high-class products. Increased prestige is increased power for business.

5. Beyond the possibility of securing a valuable cash prize, you will receive from the Association an Album containing photographic reproductions of the 100 best Window Displays in the country. Such a book will be invaluable to you. You can use it as a textbook for making your future window displays. It will give you new ideas.

6. You will stand an equal chance of receiving one of the 500 valuable Cash Prizes, which range from \$2,000.00 down.

7. You will have the moral satisfaction of becoming identified with a movement demonstrating to the World the desirability of HONOR, QUALITY, STRENGTH and SERVICE in Business.

Enter this contest and put your best efforts into a window display of AOCO goods.





The Story of AOCo Goggles

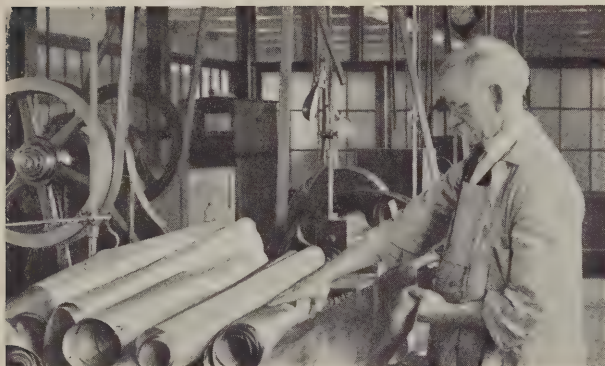


Figure 1. The start of the process. Inspecting wire gauze which is to be used for goggle screens. The gauze is received in large sheets, run through a machine which cuts it into narrow strips and is then cut out into shape. It is then taken to another machine where it is stamped out perfectly flat. Thus shaped it is ready to be bound around the edge and bent into its permanent curve.

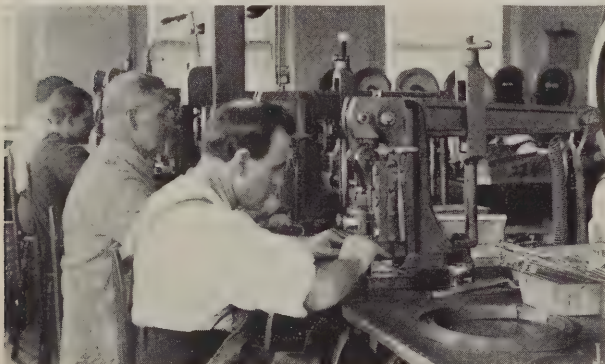


Figure 2. These are some of the old style foot presses which were used a few years ago to do all the stamping-out of parts. The stock comes in strips or sheets according to the size and shape of the parts which are to be cut from it. As the strips are fed under the die by hand, a foot lever is pressed down and the die is forced through the metal. An automatic machine now does most of this work.



Figure 3. This shows some of the delicate hand soldering being done. The man is soldering bridges and eyes together. A thin flame jets out with such a perfect mixture of air as to make it almost invisible. The parts which are to be soldered have already been "peened on"—temporarily fastened. They are then held in the left hand, while a tiny piece of solder is applied with the other. It requires long practice to do this soldering well.



Figure 4. This operation, shaping bridges, is not peculiar to goggle making, but is interesting because it looks so easy and is really so difficult. It requires an eye trained to detect the smallest differences in heights, inclinations, etc. The sheet appearing behind the operator's hand is a diagram giving proper sizes, but he has become so expert that he disregards it entirely. Only a very few men have the necessary training to do this work successfully.



Figure 5. After the soldering has been done and the parts begin to look like real goggles or spectacles they are trued up by these men. Before each of them is a blue-printed form showing the exact shape and size of the different kinds of goods. A pair of pliers and a trained eye accomplish in a few moments what could not be done at all by an inexperienced person. It looks easy—until you try it.



Figure 6. Here is a very ingenious little machine used in "doweling"—inserting the pivots on which the temples swing. A piece of wire is clamped into a handle held in the right hand. The wire is then inserted into the center of the large circular disk shown here and is then thrust into the smaller hole as is being done in the picture. This shapes and threads the wire so that it is screwed into the endpieces very rapidly.



The Story of AOCo Goggles (Continued)



Figure 7. A view of one of the assembling rooms. It is in this room that the doweling (Fig. 6) is done. When the temples have been attached and the frames are almost all assembled, the goggles are strung together on copper wire and gathered into bunches, preparatory to the nickeling process. The queer looking up-side-down bouquets near the girls are bunches of goggle screens which are all ready to have a coat of bright nickel applied.



Figure 8. This man is assembling goggle frames and screens such as are used on AOCo goggles No. 3026. At his right hand is a large box containing the screens. Before him are the frames. At his left just showing in their wooden tray are frames which are all fitted with screens. As in most of the operations, this work requires a special knack only acquired as a result of long practice. The novice would make slow work of it.



Figure 9. This is a view into one of the finest polishing rooms in existence, where frames, aluminum cases, etc., are given a brilliant lustre. A special forty horse-power motor supplies a strong suction behind each machine that whisks dirt away in a second. Go into this room at noon and you will see the faces of the workers as clean as at seven o'clock in the morning—a practical test of cleanliness all will appreciate.



Figure 10. A corner of the department in which the nickeling is done. The man in the picture has two bunches of goggle screens in his hands, just as they appear when taken from the solution. As they are immersed in the bath, however, they are separated in order that they may not touch each other and spoil the nickeling. All kinds of nickeling and gold-plating work can be done here.



Figure 11. This picture was taken in our "Lensdale" building, and shows men inserting lenses into finished frames. Before them on the white paper are the lenses, and finished goggles are shown in rows in the foreground. The men were working almost in the center of the building, yet notice how perfect the lighting conditions are. All goggles are sent to this department to have the glass inserted.

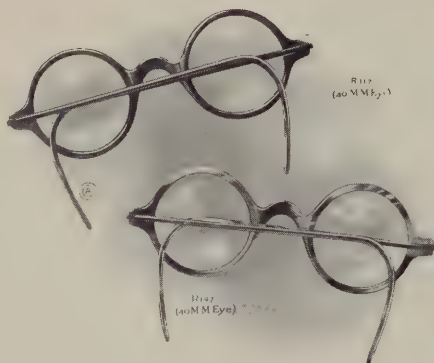


Figure 12. These girls are sewing the soft velvet ribbon around the edges of the screens and frames and attaching elastic bands. After going through this process they are sent to the inspection department, where after a final inspection they are packed and prepared for shipment. It is interesting to know that the AOCo No. 3026 goggle was first made only ten years ago, and the sale of them now runs into enormous figures annually.



Now For Comfortable AOCo Zyloware Goods

Are you making your strong selling talk these days on Zyloware spectacles? The kind that appeal to the tired business man because of their real solid "roomy comfort"? You know that's where the real use for Zyloware goods lies. They should appeal to a man in the same way as his slippers and his smoking jacket do. To be sure they have been, and still are, worn about the streets, but such wear is merely fashion's fad and has no permanency. It is their lightness and comfort which give them a lasting place among optical necessities. The special qualities which appeal most strongly to your customers are appearance and strength. Appearance depends primarily upon their coloring, and secondarily on their general shape and proportions. Their strength depends upon the qualities of the Zyloware itself



AOCo Zyloware Spectacles

and upon the solidity with which the parts are designed.

We gladly invite a careful inspection and analysis of AOCo Zyloware goods. Such analysis will readily show why they will be easy sellers. They are made in assorted eye sizes and P. D's. Unless otherwise specified we regularly furnish assorted P. D's. and 40 mm. eye. Genuine AOCo

Zyloware goods are stamped with a little AOCo gold monogram on the back of the left endpiece. Look for this mark on the goods you order of your jobber.

RIDING TEMPLE FRAMES

Cat. No.	Color	Per Dozen
R 117	Dark Shell	\$7.50
R 127	Black	7.50
R 137	Amber	7.50
R 147	Light Shell	10.00
R 157	Crystal	8.50

STRAIGHT TEMPLE FRAMES

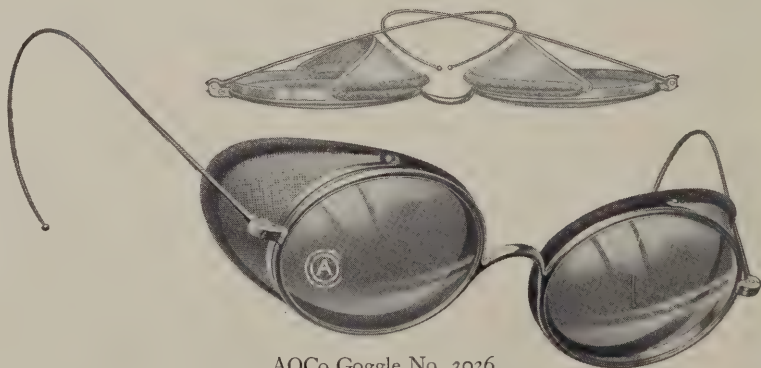
Cat. No.	Color	Per Dozen
R 113	Dark Shell	\$7.50
R 123	Black	7.50
R 133	Amber	7.50
R 143	Light Shell	10.00
R 153	Crystal	8.50

ZYLOWARE GOGGLES

Cat. No.	Description	Per Dozen
R 617	Dark shell color with microquille amber lenses,	\$15.00
R 637	Amber color with microquille amber lenses,	15.00
R 647	Light shell color with microquille amber lenses,	18.00

The Great Granddaddy of AOCo Goggles

This goggle No. 3026 was originally made as an experiment. We knew what autoists wanted, and this was the model we designed to prove it. That was ten years ago. Now this AOCo goggle is one of the largest sellers in the country. You will find it worn wherever you go. It has proved itself to have just the qualities of comfort, protection and convenience that autoists like.



AOCo Goggle No. 3026

You may carry as large a line of goggles as you wish—of all shapes, sizes and designs; but the one goggle you *need most* is this No. 3026. There are satisfaction and profit in every pair. Order of your jobber as follows:

No. 3026 white metal with coquille or curved white or smoke lenses, per dozen \$7.00; gold-filled with curved amber lenses, \$12.00; fieuzal lenses, \$13.00.



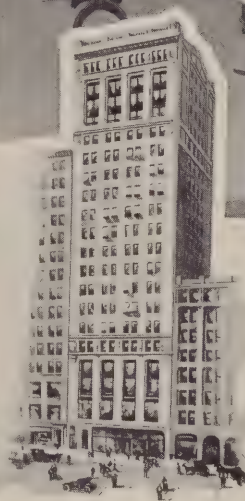
Here's Where We Do Business in New York

These are two photographs recently taken of the American Optical Company's New York offices.

Owing to the very large increase in business in New York it was necessary, in 1910, to establish a New York office at 15 Maiden



AOCo, New York



York City before his connection with the American Optical Company. Associated with him are Mr. Ferd Kropff and Mr. Dean Woodard, both of whom are also very well known throughout their territory.

The office has a complete line of samples of American Optical Company goods, and we hope that our many friends will make it a point to visit it and look over these samples when in New York. A more thorough acquaintance with the goods will be very much to your advantage and will be of great assistance in ordering from your jobber.

Lane, on the twelfth floor of the Silversmiths Building. Business continuing to increase, on January 1, 1913, we moved to much larger quarters, and now occupy the entire Maiden Lane frontage on the fourteenth floor.

Our office is in charge of Mr. J. H. Bohling, who was connected with leading optical houses in New

Is Your Kryptok Business Growing?



Are you doing the amount of business you should in Kryptoks? Your field for these lies all about you, waiting to be cultivated, but it is not the kind of field on which surface scratching will have much

effect. Good, deep, honest plowing with every sort of advertising push at your command is what will bring real results. Lots of folks are going about very much as did Mrs. Jones's boy. This young lad was spied, by a neighbor, going about with a pair of glasses, and not having chanced to see him wearing them before, she commented upon it to Mrs. Jones when she met her on the street. "Well, you see," said Mrs. Jones, "They belonged to his poor father, and I thought it was a pity to waste 'em."

There are undoubtedly many people among your possible customers who are wearing old style glasses merely because they don't know of the wonderful improvements made in bifocals, and even if they do,

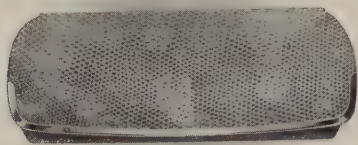


they hate to "waste" the glasses they are now wearing by purchasing new ones. Get in some good advertising work on Kryptoks—the kind ground from AOCo blanks, and you'll make your sales jump with a rush.



“Buy Your Christmas Presents Early”

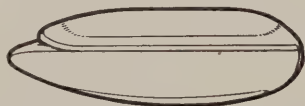
Seems a bit early to be speaking of fall trade and next Christmas? Well, perhaps it is but the man who makes his arrangements for the holiday season now won't have to bother about them when the rush begins. We're taking fast hold of old Father Time's forelock and are illustrating here two cases



AOCO Case No. 705X-31C7

which you should be able to sell a bit later to especially good advantage. These two are not cases for the “masses”; rather, they are cases for the “classes,” the buyers who like a good thing and can afford to pay for it. The number 705X-31C7 (no, don't think that's a football signal merely because we speak of Fall) case is one of the finest examples of the case-making art one would care to see. Its

New Style Case—Flat Cover



Old Style Case—High Domed Cover



model is the new flat-top design, which slides into a man's pocket without showing a lump. Its ends are fined down with such graceful curves that the case



AOCO Case No. 3252-21

appears even smaller than it really is. Genuine lizard skin is used for a covering, and a band of either sterling silver, gold-filled or 10K or 14K solid gold is used to protect the edge of the cover and add distinction to the appearance of the case as a whole. The lining is the best quality of gray suede, blending harmoniously with the coloring of the lizard skin.

The second case illustrated is for spectacles, made on the same popular flat-top model. Its number is 3252-21. Covered with genuine seal skin and fitted with a gold, gold-filled or silver band on the cover it makes a rich appearing case that should find favor with your particular customers.

The advantages of the flat-top model cases may be readily seen from a glance at the outline drawings shown here. The awkward-appearing bump in the center of the cover is done away with entirely, making neater cases that are much more comfortable to carry.

Send your orders in to your jobber now for these models.



Get The New AOCO Trial Set Catalogue

Are Trial Sets interesting you just about now? If they are you need a copy of the AOCO Trial Set Catalogue just completed. It is a handsomely printed book containing a complete description of AOCO Trial Sets, Trial Frames and Accessories. The choosing of a good Trial Set is extremely vital to your work, for a slight error in the grinding of the lenses means an error in your results. The AOCO takes pride in the unusual accuracy with which its Trial Sets are made. To use them is to guarantee your testing and neutralizing results against mechanical inaccuracies. Write for this catalogue and give them a thorough investigation.

“Many thanks to you for the lantern slide, and also for all the other matter, as the good it has done I cannot estimate. If it does others as much good as it has me, you will have all kinds of trouble in filling orders for your goods.”—E. S. LICHTENBERGER, Reading, Pa.

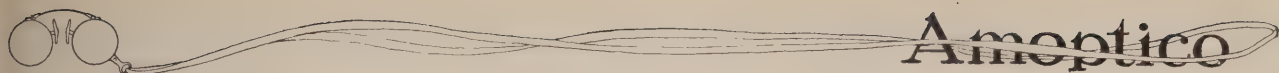
What Do You Think of This?

This is a copy of a notice we received recently from the Peerless Optical Company. These notices were sent to their customers. Comment from us would be superfluous.

IMPORTANT

Beginning February 1, all Rx orders specifying gold-filled frames will be filled with the American Optical Co.'s new 14k frame, with $\frac{1}{8}$ 14k bridge and temples, and the price will remain the same as charged by others for inferior makes of 12k frames. These frames are unquestionably the best filled frames produced in this country and have the guarantee of the American Optical Co. back of them. In the skeleton mountings we shall use the same grade of goods with the $\frac{1}{8}$ 14k bridges. This will give you not only more gold but 2k finer gold in each frame. We are buying the best raw material and stock that money can buy, with no temptation of how cheap, but how good.

We have cut away from the multitude of small manufacturers whose only inducement is lower prices, and are confining ourselves to the products of one company whose name for fifty years has stood at the head of all that is to be said of optical goods, The American Optical Co.—PEERLESS OPTICAL Co., Evansville, Ind.



Amoptico

Reg. in U. S. Pat. Off.

Vol. III June, 1914 No. 3

Published Monthly by
American Optical Company
1833-1914

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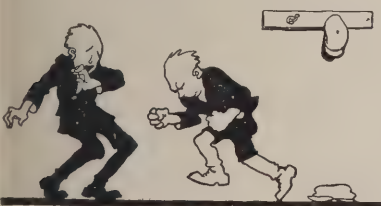
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Manufacturers

Spectacle and Eyeglass Frames, Mountings and Material, Eyeglass Chains, Automatic Eyeglass Holders, Trial Sets, Trial Frames and Accessories, Automobile Goggles, Lenses, Spectacle, Eyeglass and Goggle Cases, Optical Machinery, Tools and Supplies, Etc.

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IT seems to be human nature to fall into little ruts and habits—big ones, too, for the matter of that. Do you remember, when you went to school, how you always had a certain hook in the coat room on which you habitually hung your overcoat? And how you resented it when anyone else inadvertently made the mistake of hanging his overcoat in your place? Or did you ever notice how in an office men fall into a routine in little things which saves a certain amount of mental effort?

This same principle holds true in the selling world. After an optometrist has become established in a locality he insensibly becomes so familiar with the class of trade he secures that he assumes a frame of mind in which he expects to

secure that certain class in all cases, and is disappointed or very much surprised, as the case may be, when some sale throws him out of the rut for a while.

An instance of this was a case that occurred recently in New York City. An elderly lady entered an optometrist's store and asked to be shown a Varsity Style Eyeglass. The optometrist, mentally deciding by her dress and by the trade he was accustomed to carry on that she would want a good quality, gold-filled frame, offered her various styles, as she wished. Finally she picked up one pair, remarking: "That's the style I want, but haven't you got it in 14 Karat Gold?" It so happened that he did have, with the result that he made a sale amounting to \$25.

It is not to be expected that this can happen often. But the wise salesman always starts his customer at the top of the price ladder, knowing that it is easier to make a large sale in that way than by forcing a continually better grade of goods on him. The habit of mind which leads anyone to start with the *average* priced article without regard to individual cases, is much to be deplored. After hearing the merits of the best made eyeglasses explained, a customer is not so readily satisfied with a medium or low grade.

Make it a practice to start on the highest plane you can when starting your sales talks, and keep away from the "average price" rut.

ONE of the most general weaknesses in the optical business is the fact that outside of those who manufacture optical supplies or handle them in wholesale quantities, there is only a comparatively small percentage of men who really have an adequate knowledge of them. Certain facts which are easily learned from experience, such for instance as the fact that one line of goods may be usually relied upon to have a higher temper or a



stronger spring than another line, are, of course, commonly known. But the comparative value of various types of construction, the methods by which certain results have been achieved, the *reasons* for this or that are not generally known. This fact explains the sale of inferior goods and the dissatisfaction which usually results. Unless you are acquainted with the reasons behind the superior construction of Fits-U Eyeglasses, you are very much at a disadvantage both in buying and selling: in buying because you are not prepared to answer the arguments of the silver-tongued salesman who would sell you the just-as-good article that promises such enormous profits; in selling because you cannot clearly explain the points of excellence which will appeal most strongly to your customers.

Do you know why we make an Ovalax Spring? Can you explain the reason for the patented AO-Washer on the post screws? Can you tell of the extreme care taken by the American Optical Company to ensure a definite standard of quality? All these points may be made strong sales arguments when used by the man who is thoroughly familiar with them. And they are so much more potent than the ordinary statements that the spring will last well, the washer will help to secure smooth action, and the material used is gold-filled, or solid gold, as the case may be.

It is always a pleasure to be waited upon by a man who knows the story of his goods, whether those goods are shoe strings or eyeglasses.

If you have not asked for an AOCo general catalogue yet, send in a request for it. You will find it a veritable storehouse of information. Be sure you are on our mailing list to receive AMOPTICO. Follow our trade paper advertising. In this way you can work toward a better understanding of AOCo goods. And when you know as much about them as we do, you will know why we can say "leaders of the world."



NEW GOODS *for* up-to-date DEALERS



FITS-U LUXE

(PATENTED)

The Eyeglass With Fixed Lower Guards

Well, the new Fits-U Luxe Eyeglass is successfully launched on its voyage to public approval, and is making even faster headway than we had a right to



A New Fingerpiece Eyeglass. We Own Exclusive Patents on This Idea

expect. When you make a handsome-appearing eyeglass, you can find a few buyers; when you make a solidly-constructed, simply-designed eyeglass it isn't hard to find more buyers; but when you combine these qualities in an eyeglass, that is *scientifically designed* to give a maximum of good looks, wear and comfort, and that is far in advance of any other styles made, it doesn't need such a very large amount of "hollerin" about it to get every possible purchaser on its trail in a hurry. At any rate, we're proving that right now with the Fits-U Luxe eyeglass.

As you know, the principle of the Fits-U Luxe eyeglass is that the weight of the eyeglasses should be borne evenly on the sides of the nose, without any spring pressure, by fixed lower bearing pads, and the glasses should be prevented from slipping or tilting forward by the action of moveable upper guards actuated by fingerpieces and the Ovalex spring. It is not necessary, in the Fits-U Luxe, for the spring pressure to hold the weight of the glasses. The result is that a very much lighter pressure than is usually required is sufficient to retain the glasses safely and comfortably in place.

Here is a point, too, which from the standpoint of optical efficiency cannot be too strongly emphasized. The fixed lower bearing pads, which are adjusted by yourself to conform exactly to the peculiarities of nose shape which each patient has, ensure the

glasses always being returned to the proper position with lenses in exact alignment and centre.

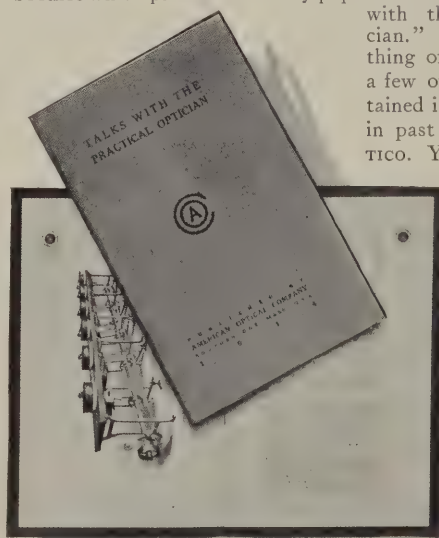
It is not often that an opportunity presents itself to get in such good advertising work as the new Fits-U Luxe eyeglass offers. It is new, it is based on a scientifically correct principle, it is more comfortable than any other, it has individual constructional features, it is different from anything else on the market. Every dealer with real business acumen will take advantage of this opportunity, and sell his customers Fits-U Luxe eyeglasses, that will make them enthusiastically his own so far as all future optical business is concerned. Here are the prices at which your jobber sells them. He will welcome your orders, and your customers will welcome the FITS-U LUXE.

No. 03121 Fits-U Luxe Patented Ovalex Spring	Trade price per doz.
1-10 12K Gold-Filled mountings, Complete,	\$7.50
10K Gold mountings, Complete,	16.50

Announcement Extraordinaire!

We're at it again, with brains and printing presses, printer's ink and ideas. The result this time is a revised edition of the little booklet which proved to be very popular a short time ago: "Talks with the Practical Optician."

You know something of what they are for a few of the "Talks" contained in it have appeared in past editions of AMOPTICO. You could go a long way and fare worse looking for any small reference work which contains so much down-right solid necessary information about lenses and the problems which arise in grinding them. The book is written by an authority on lenses who is thoroughly



familiar with the everyday problems of optical shops.

This booklet will be sent free to any optometrist or optician who is interested in these and similar problems. It contains information that may save you any amount of time and money. Send us a request for it on your regular business stationery or enclose your business card.



Gold and Silver Spectacle Making in the Early Days

By AN OLD AOCo EMPLOYEE

At the time of which I am writing there were but few styles of gold and silver spectacles made, and the sizes and shapes of eyes were as follows: octagon (two sizes); oblong (one size); and in the oval but two sizes—regular, which conforms to our present No. 3 eye; and the long eye, which was the same as the No. 2 eye of a few years back. (Difference of 11 mm. between major and minor axis.) These were the eyes in common use. Of course even then there were exceptions, but these exceptions were always considered as special.

The bridges in these goods were also limited in their variety, there being the C bridge in both straight and curled foot, but in two depths only. The X and K bridges were used principally on special orders.

The C bridges were all made from oval wire and not reduced at the ends, as at present. The workman was given a coil of eye-wire, a coil of bridge-stock, a length of endpiece and joint stock, together with a list of the number of pairs of a certain style he was to make, and this same list or order contained a notation of the kind and the focus of the lenses to be set in these frames.

After selecting the desired former and placing it in the jaws of a vise, he slipped the coil of eye-wire down over the end, and, after inserting the loose end of the wire in a hole in the former made for this purpose, began the process of winding the eyes by passing the wire from hand to hand around and around the former, occasionally pounding the coils down against each other with the edge of a wooden mallet, until he had formed enough eyes to fill his order.

This former, filled as it was, was next placed in a pair of tongs and by careful manipulation in an open charcoal fire was raised to a sufficient heat to ensure the setting of the wire to the shape of the former; and, after cooling, a mark was made the entire length of the former where the opening in eyes was desired. The cutting was done in most cases with a pair of hand shears after the coil of eyes was removed from the former; but sometimes this severing was

done with a fine hand saw and the corner of a bench-pin for a support.

Each workman had on his cutting pliers marks at a position just the right distance from the jaws to give him the stock when severed from the coil that was the right length for a desired nose-piece.

These were next placed in a tool held in a vise, and bent up one at a time into a shape that would represent the arch of the bridge but with long feet

or ends sticking out at right angles, like a hat brim. These ends were then cut off at a desired length either for straight foot or curled bridges, and the curl was made by bending this end around one jaw of a pair of round-nose pliers. Having made the eyes and bridges, the next step was to solder the ends of the eyes

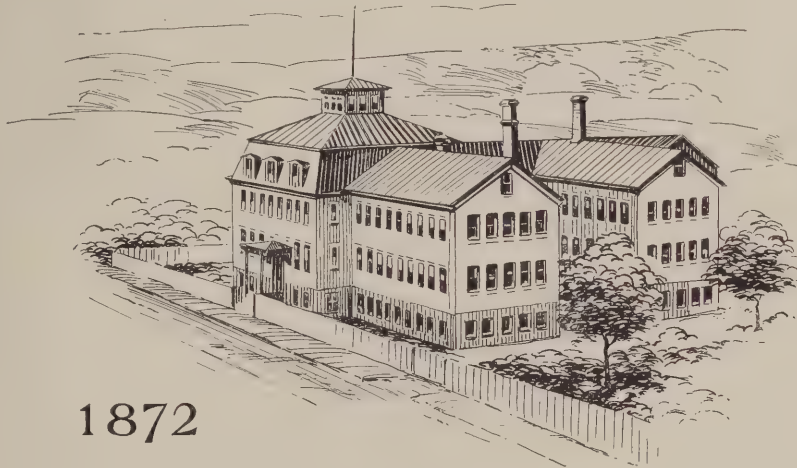
together. After soldering, each eye was leveled up on an iron bench weight to take out whatever twist might be caused by crooked wire or the spiral of winding. This same process applied to both round and flat eye-wire.

The flat eyes were next placed on a wooden former and with a fine flat file all streaks that were produced in the process of drawing this wire were removed.

Now, after this bending and hammering, it was necessary to again anneal these eyes, which was accomplished by placing them on a flat piece of iron (usually an old stove-lid) and again bringing to a heat sufficient to take out any tendency to spring that might have been produced in the previous process of hammering and bending.

The next step was to flatten a spot on the nose-piece so as to make a good connection, if the eye were flat; or a groove in this nose-piece if the eye were rounding in form; either of which was made with a hand file.

Clamping the bridge and eye together with a steel clamp extending over from the inside of one eye across the bridge to the inside of the opposite eye like a pair of ice tongs minus the handles, the workman soldered them by the aid of a mouth blowpipe and the light of a whale-oil lamp.



1872



Each foot of the bridge was then bent so as to give the inclination of the crest of the bridge, and after accurately leveling and aligning they were ready for the spotting (or flattening) for the seat of the end-piece, which was done with a hand file while the eye was held on the corner of a bench pin.

Each end-piece was severed from its long strip with a hand saw and a joint for this end-piece handled in the same way.

The next process was to take two or three short pieces of fine binding wire, pass them through the inside of the eye, and bend both ends between the thumb and finger of one hand while with the other the piece of end-piece stock and its joint were placed in position at the point flattened on the eye, and between those ends of the binding wire protruding beyond the end of thumb and finger.

The ends of the binding wire were bent past each other and given a twist with the thumb and finger, and by careful manipulation of the ends of the binding wire in a pair of pliers and by just the right pressure of the thumb and finger holding the eye stock, end-piece, and binding wire, a sufficient tension was secured to hold all together during the process of soldering. If anyone thinks it is easy to bind an end-piece on with wire, let him try it.

In cutting off the joints for the end-pieces, a little length was always allowed so that if there were any slippage in soldering there would still be enough of the joint to cover the end-piece.

This was all filed down together with the sides of the end-piece until the standard width was gained, and after prick-punching, the process of lathe work on this end-piece was undertaken.

It was first drilled and counterbored to receive the screw-head, tapped in a hand tapping machine, and, after sawing open with a hand saw, was milled at the joint to receive the temple end of this hinge. The power for the lathe work had recently been changed (1868) from foot to our regular transmitted power, but the lathe itself was a very crude form.

The polishing of these fronts was done on leather-covered wheels, and for what we called wet polishing a mixture of ground rotten stone, ground pumice, and oil was used.

All the lens setting at this time had been divorced from the regular spectacle making, and was done for this department by Horatio Horton.

While the lenses were being set, the workman proceeded with the making of temples for these fronts. The jumpel for the butt of the temple was held in a vise, and after the insertion of the temple between the upper and the lower halves the plunger was struck a blow with the hammer to form the temple butt in a shape to receive the joint. The joint was held in place, while soldering, with a piece of steel wire bent like a clothespin.

The process of straightening and removing the concave and convex surfaces left by the cutting die was by planishing stake, and hammering.

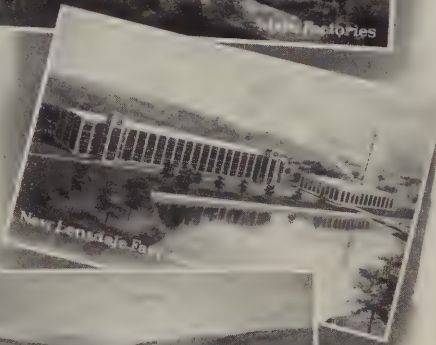
After filing to take out all die marks, the temples were carefully scraped to remove the file marks, when they were ready for the polishing wheel and the use of the same mixture for the polishing employed for the fronts. After the lenses were set and temples polished, the temple joint was milled to fit each individual end-piece. The rivet was inserted, and after being driven in sufficiently tight to give the right tension on the temple, was cut off and the end-piece filed for finishing.

The polishing of this end-piece was started by what we called "buff sticking." The buff stick, a length of wood covered with a piece of military buff leather, and charged with pumice, was thoroughly

rubbed over the inside of the end-piece and the inside of the joint.

The lap-wheeling of the sides of the end-pieces was done on a sole-leather surface and was very far from the perfect lapping of to-day; but that the owners had this present day lapping in view can scarcely be doubted, from the fact that I have seen in a copy of their shop formulae three distinct recipes for metal lap wheels; however, it was not until about 1898 that this process was brought to its present state of perfection.

Following the polishing and washing, each man assorted his own work for its different focus numbers, and after stamping for the focus number it was turned over to the shipping department for the bending of the temples. If the gold goods were six or



The AOC Plant To-day



eight karat, they were subjected to a baking process to give them a richer color.

The temples used at this time on gold and silver goods were the straight temple, band slides, and Jack Downing slides. Not until the early part of the "seventies" were there any riding bow spectacles made in Southbridge, and as late as 1875 there was but one man on this class of goods, which were made only in frames. The frameless riding bow was in process of development at this time.

It had long been realized that both the quality and the quantity of goods could greatly be improved upon if one man did one thing and another man another thing in making the spectacle; but there was no attempt at specializing in the gold spectacle making until the early "seventies," when a battery of special lathes and the eye-sawing machine were built in the shop for the purpose of doing the lathe

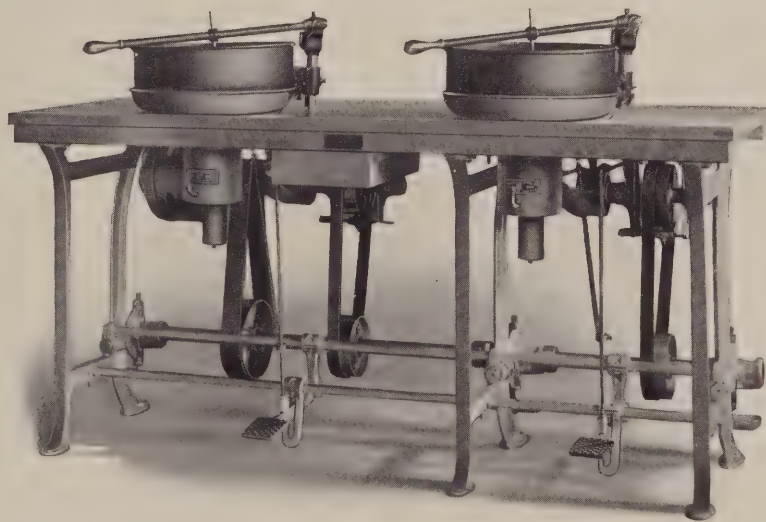
work on gold and silver spectacles, and put in charge of the late H. N. Carpenter.

They were a beautiful piece of work, and on a visit I made to the works in 1898 I saw these same machines still in operation. All had hardened cone bearings, concealed belts, and were arranged to economize in every way the waste of gold—a lasting monument to the late George W. Wells, mechanical genius, as well as an example of the thoroughness with which he builded.

The next subdivision of the work on gold spectacles was the divorcing of the temple making from the other work. While it was not at first acceptable to the employees as it cut down the aggregate price of production, each man earned more the first month it was put into operation than he had ever earned in the same time, and the class of work was superior to what it had been.—*William Bowker.*

AN UP-TO-THE-MINUTE BENCH SURFACE GRINDING MACHINE

NUMBER
M 21



NUMBER
M 21

Made to meet the demand for a simple, inexpensive, surface grinding outfit that will *do the business*. Benches thirty-six inches long may be furnished with a single machine, or in batteries of any required number.

A strongly constructed, efficient, space-saving machine, that will supply a maximum of results with a minimum of running expense. For bench fitted with AOC M 21 surface grinding machines, spindles spaced 30" apart, with main shafts, countershafts and belts complete, without motor, \$68.75 per spindle. Cost of AOC M 21 machine equipped with 110 or 220 volt alternating current 60 cycle single phase motor for each spindle belted direct, \$102.65 per spindle; or \$108.65 for motor arranged for 115 or 230 volt direct current.

For further particulars write for our circular explaining the machine more fully, or write direct to your jobber.



SELLING *the* GOODS



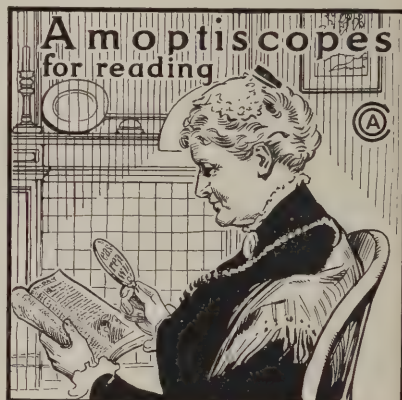
How Do You Like These Two?

"Variety is the spice of advertising" might well be a revised version of the old adage with which we are all familiar. We are applying this to our dealer help service work at any rate, and here is the latest evidence of it—two brand new newspaper electrotypes advertising Kryptok lenses and AOCo Amoptiscopes. They are as up-to-date and snappy as the goods themselves. With each electrotpe we send a sheet containing six changes of copy ar-



AOCo Electro No. K4

ranged so as to be sent to your printer and leave a minimum of work for yourself. We have quite a family of electros now, from the little baby No. A 22, only one inch deep, to the larger ones, running up to five and six inches double-column width. These particular ones should prove to be right in line with your own requirements now, for both Kryptok lenses and Amoptiscopes are in such demand. If you can use either of these electros, just drop us a line telling us so, and we will start it on its way to you at once.



AOCo Electro No. A27

New Signs Advertising Opifex Bifocal Lenses

We are now ready to help you push your Opifex Bifocal Lens sales with two attractive new signs. One is arranged as a transparency, 5½ x 7¼" large, which may be attached to the glass of your show window or glass door panel, either on the inside or outside. No trouble to attach; merely wet the sign and place it on the glass, smoothing it into position. It will maintain its original brilliancy and freshness in spite of the weather.



No. 10W1

The second sign, also in full colors, is 6" x 8", and has a prepared surface which may be cleaned with a damp cloth whenever necessary. Supplied with a

substantial easel back, which makes it suitable either for window or show case display.

If you are selling this popular, medium priced bifocal, we will be glad to supply you with either or both of these new AOCo Opifex Bifocal Lens signs free of charge.

The Best Uni-Bifo Onepiece Bifocal Folder Out

It Has Snappy Copy and a Real Selling Punch

"Do you remember Poe's story of the man who was frightened out of his wits by seeing a huge monster coming out of the woods near his home? He discovered that the monster was a common house-fly crawling across the window pane near his eyes which were focused on the distant woods. His eyes had played him a trick."

That is the first part of the "copy" contained in this new Uni-Bifo Onepiece Bifocal circular, and the rest is just as interesting. It carries its message of Uni-Bifo Onepiece Bifocal superiority with a force and conviction which will go far to convince the reader of the truth of the facts discovered.

If you are using American Optical Company goods; if you will specify AOCo Uni-Bifo Onepiece bifocal blanks, you are entitled to receive a reasonable supply of these folders *free*. When you write out your next Uni-Bifo Onepiece Bifocal order tell your jobber you must have AOCo Uni-Bifo Onepiece Bifocal and add, "I can use a reasonable supply of the new AOCo Uni-Bifo Onepiece Bifocal folders." He will be glad to see that they are sent to you.

WHAT DEALER-HELP SERVICE REALLY IS



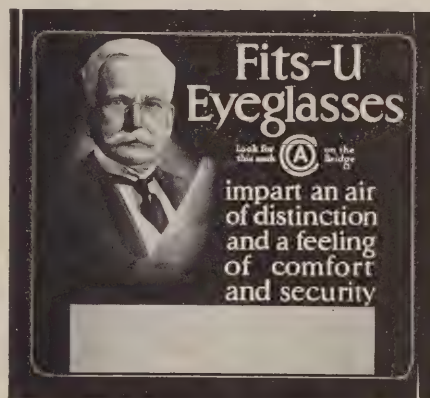
AOC Co Newspaper Electrotype No. A21



AOC Co Sign No. 14W3
Full Colors, 11" x 14"



AOC Co Sign No. B79



AOC Co Colored Lantern Slide No. 10



AOC Co Window Sign No. 11W1
Two Colors, 10" x 14"

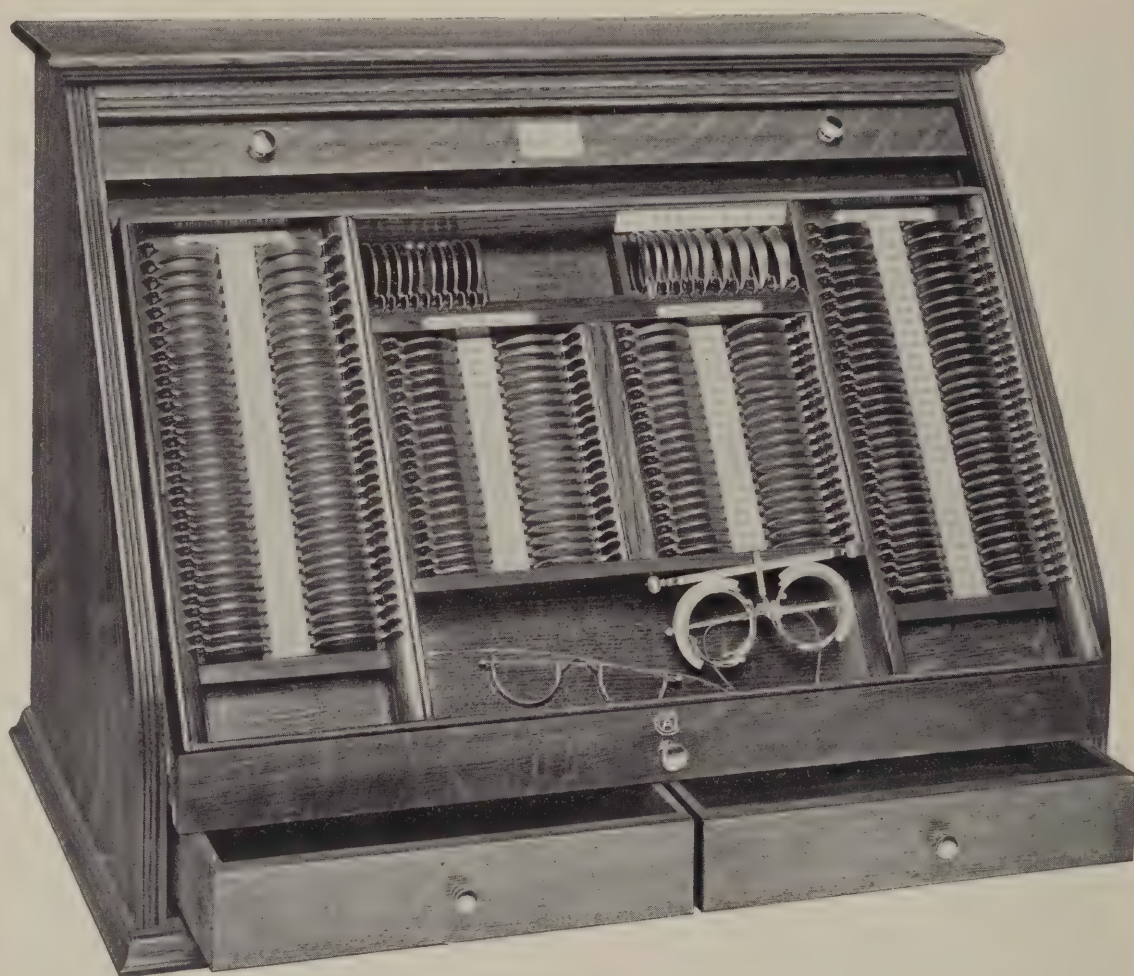


AOC Co Counter Pad No. 17M4

ADVERTISING costs money—a perfectly trite remark but none the less true for that reason; and the optometrist or optician who contemplates advertising is often rather staggered to see how much it does cost. Good advertising, however, is not expensive, for if it brings a larger business it ceases to be an expense. It becomes an exceedingly profitable investment. But even profitable investments require an outlay of money, and that is the reason for the existence of the AOC Co Dealer Service Department.

One of the heaviest expenses in advertising is the preparation of the necessary materials; the newspaper electros, the window cards, the lantern slides, the leaflets, etc. The AOC Co Dealer Service Department is designed to help you avoid this expense by supplying different forms of advertising material free of charge in reasonable quantities. Our reasons for doing this are not philanthropic. When the advertising matter we supply you brings results, and you sell more Fits-U Eyeglasses, we benefit. It is a co-operative plan for increasing both your business and our own.

These illustrations show a few of the forms of advertising we hold at your disposal. We have many others. Some of them should benefit you. If you need a window sign, a newspaper electro, a lantern slide, folders or blotters advertising the fact that you sell AOC Co goods, write us for them.

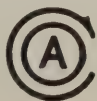


AOC_o TRIAL SETS, TRIAL FRAMES AND ACCESSORIES

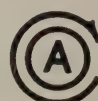
A reputation for accurate trial sets cannot be gained in a year, or two, or three. It can only result from a standard of excellence maintained over a long period of years.

The American Optical Company has been making trial sets for over thirty years. The experience thus gained, together with its unequalled corps of lens experts and its wonderful manufacturing facilities, has enabled it to build a world-wide reputation for accurate trial sets.

Every Trial Set that bears the AOC_o trademark is backed by the Company's full guarantee.



Made in all sizes, all styles; and for all prices. Tell your jobber you want one of the new AOC_o Trial Set Catalogues, containing prices and a full description of the AOC_o line. You should investigate thoroughly.



Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. 3

July 1914

No. IV





and now has come another innovation: a new Fits-U Eyeglass called the

Fits-U Luxe

COVERED BY EXCLUSIVE PATENTS

FROM time to time in the past, we have announced patented structural changes in eyeglass construction, such as the A-O Washer, A-O Loop, Short P. D., Ovalex Spring, etc. In each case these changes have been hailed by the trade as marked improvements. To them has been due in large measure the success of the Fits-U and its wonderful sales record and popularity.

Now comes the Fits-U Luxe Eyeglass embodying another invention—a new basic principle of eyeglass design: separation of the upper and lower guards. The lower fixed bearing guards, permanently fitted to the nose, assume the weight of the glasses and hold the lenses firmly in alignment. The upper guards, actuated by a slight Ovalex spring pressure, prevent the glasses from falling forward.

The rapidly increasing sales of the Fits-U Luxe Eyeglass prove, just as in the case of previous patented innovations, that the American Optical Company has pointed the way once more toward perfection in eyeglass-wear.

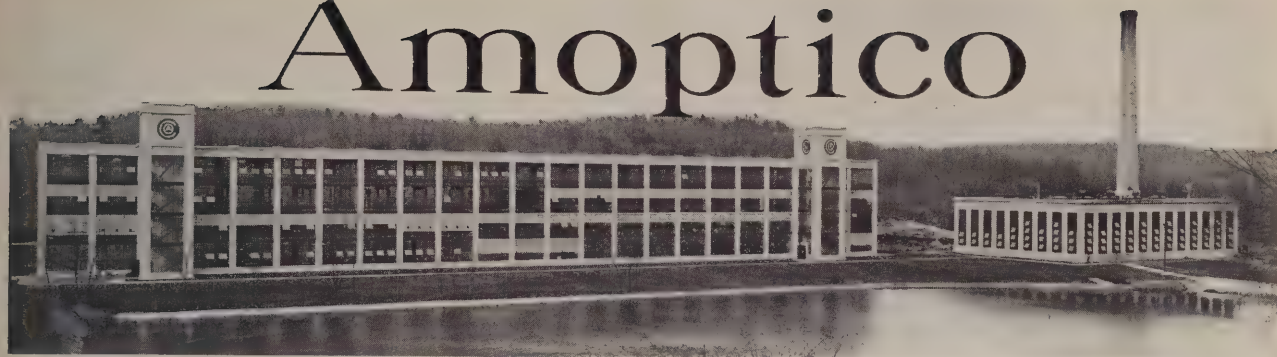
Fits-U Luxe Eyeglasses should take a prominent part in your business. Send an order for them to your jobber. You will find that they lead all others in structural excellence and design.

No Increase in Price.

No. 03121 Fits-U Luxe Patented (Ovalex).

1-10 12K Gold-Filled Mountings	\$7.50 per dozen
10K Gold Mountings	16.50 " "

Amoptico



Optical Allusions

A good window-card is an optician's policeman set to arrest the roving eye.

Put the bite of an eye-tooth in your ad on the eye truth.

Probably the first substitution on record was Leah for Rachel—and you may remember that Jacob got Rachel in the end. Customers who ask for the Fits-U mounting generally know what they want. The best policy is to give it to them. It means satisfied customers.



Just as many people need glasses in July as in any other month. Are you making just as much effort to supply these needs?

Talk gold mountings first. It is easier to drop down to gold-filled than to work up to solid gold.

The fingerpiece idea in eyeglasses is good. When expressed in terms of Fits-U Luxe quality it is the best you can give a customer.

Four things come not back:—the spoken word, the sped arrow, the loaned umbrella and the dissatisfied customer.



The fair ideal is the square eye deal.

In their re-visioning opticians have made it "As through a glass, brightly."

Are you near-sighted in your own business? In your town are probably lots of possible customers that you never see. Advertising is the best cure for this form of business myopia.

Successful business is selling goods that won't come back to customers who will.

Better a man never came to your store than that he went out unsold. The unsold man usually has a reason that reflects on you. The man who never called is at least neutral.



It's a far-sighted optician who can see beyond his own front door.

There's one optical defect which an optician always enjoys correcting—short-sightedness, especially when a customer thinks gold-filled mountings "will do just as well."

When Ben Jonson wrote "Drink to me only with thine eyes," he wasn't advocating prohibition. He was merely pointing out how much the eyes can express.



We think it is slang today when we hear eyes called "lamps." And yet the poet Du Bartas, who died three hundred years ago, wrote

"These lovely lamps, these
windows of the soul."

The eyes have always been pretty closely connected with inner character, "And read a nation's history in its eyes," wrote Gray. "Thy rapt soul sitting in thine eyes," says Milton. "Heart on her lips, and soul within her eyes," writes Byron. Apparently the ministers haven't a corner on this business of looking after the soul.

A good idea is like a lens blank—useless until it is ground and in service.

Good advertising is a mirror which reflects the spirit behind the product you wish to sell.



How to Fit the Fits-U Luxe

THE amount of satisfaction which any eyeglass mounting is capable of giving depends directly on the accuracy and care with which the fitter does his work. The Fits-U Luxe eyeglass has been scientifically designed to yield a maximum of comfort and efficiency but it cannot do this unless given a fair opportunity to prove its worth. We give the following directions on the proper way to fit the Fits-U Luxe, therefore, in order that you may be better able to secure from this new construction its maximum of satisfactory service.

Select from the Fits-U Luxe Fitting Set the mounting having the shortest bridge that will span the nose and whose height and inclination are such as to bring the centers of the lenses in horizontal alignment with the center of pupils. If the pupillary distance is correct, the vertical lines will also bisect the pupils. If they do not, it is necessary in writing the prescription to increase or diminish the length of the lens correspondingly and decenter the same amount, so the eyes may look through the optical centers.

In selecting the size, use particular care to find the one that fits snugly, with the crest of bridge resting lightly upon the nose. The width between lower guards should be such that they rest very snugly on both sides of the nose to carry the weight of the glasses.

Assuming now that the glasses have been made to the prescription using the size of mounting selected, first place them on the patient's nose and note their horizontal alignment. If the bony structure of the nose is not symmetrical, it will be necessary to adjust the angle of each of the lower fixed bearing guards independently so that the weight of the glasses will be carried very firmly yet comfortably on the sides of the nose, and not on the bridge. Care should be taken in this adjustment to see that the lower guards are fitted sufficiently tight as not to loosen when the head is tilted forward. If they are tightened until a very slight pressure is necessary to settle them in the proper position when the glasses are put on, it will overcome all tendency to pivot on the upper guards and slip off. It is important to get this adjustment correct, as once obtained it ensures perfect alignment of lenses thereafter.

Next, the AO-Loop arms which carry the upper rocking pad guards are adjusted to their proper position. This guard should be placed forward, back, up, or down, where it will locate a firm foundation for a permanent hold; at the same time the angle of its surface must be very carefully adjusted, so that the



*Side View of the Fits-U Luxe,
Accurately Fitted.*

pressure will be distributed and not confined to one edge. It is quite important to prevent the concentration of pressure on any one spot, which will easily cause soreness.

The glasses have now been fitted to occupy correct alignment and center relative to the eyes, as called for in the prescription. If the pressure of the guards is too great, or insufficient for safety, it can be changed by a slight adjustment of the Ovalex Spring. This is done by grasping the end of the spring which is hooked in the guard arm, using small pointed pliers for that purpose. A slight kink in this end will effectually tighten the spring or by straightening out the bend

the tension is lessened as required. Better still, the AO-Loop can be adjusted to bring the upper guards nearer together or farther apart. It is possible to make this adjustment so that when fitted the guards will press lightly into the flesh and come to a stop; which it will be noticed is due to the resting of the finger-piece arm of the guard against the lens strap towards the front. This positive stop prevents the strained, pinched feeling caused by continuous spring pressure against the sensitive nose. When once understood and properly done, this adjustment makes it possible for almost anyone to wear Fits-U Eyeglasses with absolute comfort, which it is impossible to obtain with the old flexible spring eyeglass, or types of finger-piece eyeglass that do not possess the patented AOC advantages.

The glasses now having been adjusted for contour, position, and tension, there is one more important step by way of ensuring the safety of the glasses against wind or sudden shock. Simply take the pliers and turn the forward edges of the upper guards *in* towards the nose slightly, so that these free front edges will pile up tiny ridges of flesh, that serve to overcome any tendency of the glasses to slip or tilt forward.

It is well to instruct each patient that Fits-U Luxe eyeglasses should be put on with the eyebrows raised, in order that when relaxed, the glasses will remain firmly in place. Eyeglasses which are placed in position when the eyebrows are in their normal position are very apt to become loosened if the eyebrows are later raised slightly.

If the adjustment of Fits-U Luxe Eyeglasses is carefully studied along the lines laid down above, we predict that every fitter will be most enthusiastic over their possibilities.

Zion City, Ill.

"I am always sure of satisfaction when I prescribe your goods. . . . Your firm puts out the best spectacle cases which I have used. In fact, all your goods give entire satisfaction."—W. O. Ruby.



Ameptico



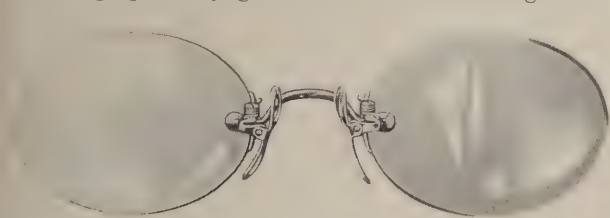
NEW GOODS *for* LIVE DEALERS



Special Eyeglass to Fit Broad Noses

(Patented)

VARIETY is a welcome thing—in some cases; but when applied to noses, it doesn't work out as very much of an advantage. In fact, you'll agree that it is troublesome from every point of view. The fingerpiece eyeglass shown here is designed to



Broad noses find comfort when this model is used

remedy the trouble you probably have when you try to fit "pince nez" to a man whose nose is broad and low, and who kicks like a steer when you tell him he ought to wear spectacles. The guards are pivoted in back of the line between the lenses, in such a way that when separated and released they come together with a slight forward motion, and thus tend to draw the glasses in toward the nose. The guards on the ordinary eyeglass work in such a way that when fitted to an especially flat or broad nose they force the glasses *away*, and off. This new style eyeglass is an especially appropriate model to carry. With it you can fit people who without it would be in a constant state of annoyance from their eyeglasses or would have to resort to spectacles. They are made in either gold or gold-filled as follows:

Cat. No.	Description	Trade Price per dozen.
3673	1-10 12K G. F. Mountings	\$9.00
3673	10K Gold	25.00

Order of Your Jobber.

Order these Motoring and Shooting Specs for Fall

We have recently completed two new motoring and shooting specs anticipating that very soon it will be just the right time for you to begin baiting your hooks for Fall trade. You should surely make it a point to see these winners.

No. 3681 model gold-filled has a special shape eye that is bound to appeal to your customers. It gives a maximum clear field of vision without being in the least clumsy. You have a choice of three sizes: A (45 mm. x 60 mm.), 2A (40 mm. x 56 mm.) and 3A (35 mm. x 50 mm.). Lenses are curved amber.

Temples are half flat, half heavy comfort cable. And here is the biggest feature of all—bridges are fitted with the well known AOCo bearing pads No. 3611 that distribute the weight of the specs on the sides of the nose. You know it is much easier to wear your overcoat than to carry it on your arm, for the weight of it is then spread evenly on your shoulders. In the same way these bearing pads relieve the bridge of the nose from supporting the weight of the glasses and add materially to the comfort of the wearer. Saddle bridges are used, and a rigid cross bar construction is combined with it to give additional strength.



*AOCo Motor
Glass No. 3681
(Pat. applied for)*

*AOCo Motor
Glass No. 3608*



The No. 3608 spectacle illustrated here is made in gold-filled, and the favorite drop-eye form is used. Temples are half comfort cable. The bridge is a very wide cylinder saddle style that affords a broad bearing surface, and is consequently quite comfortable. We make this style with a 2A eye.

Both of these shooting specs are the latest developments in an already well-known and highly regarded line. We recommend them to you feeling that they will prove their worth through ready sales and satisfied patrons. Order of your jobber.



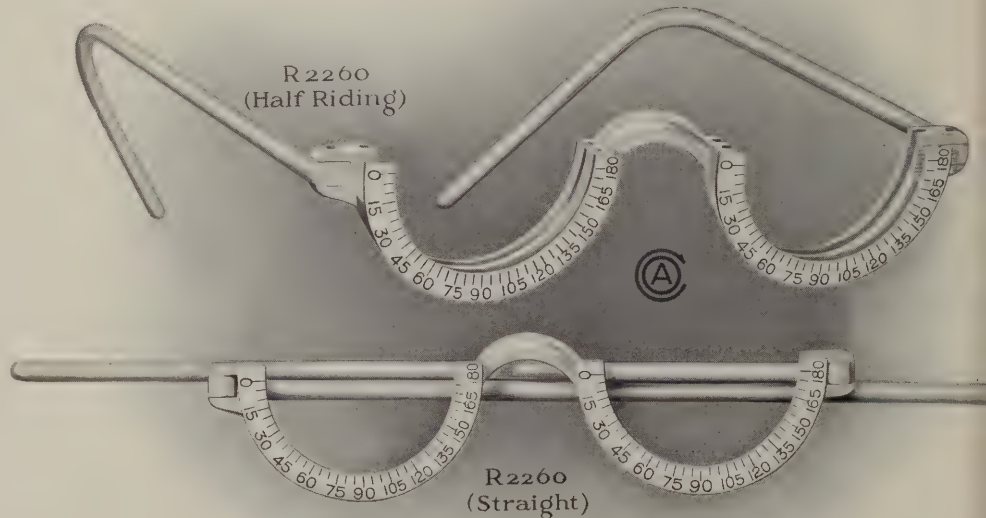
New Sanitary Trial Frames

*Read this carefully, it may be
just what you need*

The field of use for Zyloware is gradually expanding as opticians and optometrists become better acquainted with its properties and the many uses to which it can be put. The latest use is in the manufacture of trial frames, as illustrated here. This frame, made in the style of our Number 2260 steel frame, weighs only half as much. The broad bearing surfaces of the Zyloware make it much more comfortable for the customer, and at the same time do away with the hard, unyielding metal feel of the other frame. These are the facts which especially commend it.

This Zyloware frame can be supplied in white finish with either straight or half-riding temples. To those who make a special point of the sanitary condition of

their office and appliances, this white tone will particularly appeal. The usual axis scale is stamped on the zyloware, and can be read without effort. The price for these is \$2.00 each from your jobber. You will find them very much worth while in your practice.



Distinctiveness of 1/10-14K Amoptico "Flag" Line Goods

We have recently adopted a new form of packing for the 1/10-14K Amoptico Flag Line with which it is well for all users of these goods to be familiar.



All spectacle mountings and frames of this line are now being put up as follows:

On all rimless bridges and frames there is a tag showing the retail price. Regular temple frames are tagged to be sold at \$2.50, cable temple frames at \$3.00 and comfort cable temple frames \$3.50.

Each individual frame is placed in a special translucent envelope on which is stamped the size of eye, length of temple, letter of bridge and catalogue number. Each envelope is sealed with a large red AOCo label, and twelve envelopes are placed in a brown craft-paper box bearing the name and specifications of the contents.

Others Sell Them. You Can, Too

Haven't tried Zyloware yet? And the call for it still going on. Better get busy and send in an order to your jobber for AOCo Zyloware specs and eyeglasses. There is just as big a percentage of men in your town who appreciate comfort as in any other. But they've got to know where to find it before they'll do much looking. Tell them about AOCo Zyloware goods.

You pay higher rent to have your store on a busy street. Make your windows attractive enough to stop those who would otherwise pass by.



Talks with the Practical Optician

What Constitutes a Centex Lens

THE method formerly in vogue for designating lens quality was to mark the packages or envelopes "first quality" or "second quality" as the case might be. This was very unsatisfactory for several reasons; in the first place difficulty arose from the fact that no two factories had the same opinion as to what constituted first or second quality. Even in the same factory no two inspectors would agree in regard to first or second quality. The standard of surface quality was apt to vary with the weather, absurd as the statement may seem, for on a dark day imperfections were not so readily observed as upon a bright day. Then, again, the standard depended to a considerable extent upon the mental state of the inspector. If for instance, he had been reprimanded for allowing imperfect work to go by, he would be extremely careful in the future and the standard would go up. If he had condemned lenses which should have been allowed to pass and been reprimanded for so doing, the opposite extreme would be reached and the standard would go down. The whole scheme was haphazard and unsatisfactory at best, quite unsuited to present day conditions, with requirements becoming more and more exacting.

Establishing a Standard

TO overcome this difficulty it was decided to have a standard which could be referred to frequently in order that a constant uniform quality might be maintained. It was necessary that these standards should be carefully selected, keeping constantly in view the requirements of the case. Absolute perfection in a large commercial way is obviously out of the question. At the same time there are certain requisites which are absolutely indispensable in ophthalmic lenses, regardless of cost. Certain imperfections which would be allowed to pass in a high-priced camera lens would be condemned at once in an

ophthalmic lens. On the other hand there are requirements absolutely essential in camera lenses that are unimportant in ophthalmic lenses. If we wished to manufacture a yard measure that would be exact we would go to the U. S. Bureau of Standards and there get a standard tested and certified to by the Government. We could then manufacture to this standard with confidence. In the same way by having a set of standards to work to on ophthalmic lenses we are able to obtain uniformity of product. The important question is, how shall we obtain such standards?

Old Terms "First" and "Second Quality" Mean Nothing Today

Practical difficulties of inspection. . . . Various imperfections and their relative importance. . . . The story of a \$10,000 straight-edge. . . . Bubbles and variations in color. . . . A foolish patient and her two prescriptions. . . . The need of better lens standards in America. . . . American Optical Company's standards for Centex Lenses.

IT is obvious that we must take into account all conditions required. To go back to our yard stick: if we were going to manufacture wooden yardsticks for drygoods stores, dressmakers, etc., an error of $\frac{1}{32}$ or even $\frac{1}{16}$ of an inch would not be serious. On the other hand if we intended to make gauges for machinists' use, errors of even $\frac{1}{1000}$ of an inch might be serious. For some kinds of laboratory work, requirements still more rigid might be necessary and these

requirements or conditions would affect the required accuracy of our standards and our product, as well as its price.

\$10,000 for a Straight-edge

A STORY, good enough to be true, is told of a machinery manufacturer who went to a noted optician and asked him to make for him a glass straight-edge three feet long which should be perfectly straight. The optician in question stated positively that a perfect straight-edge could not be made. The manufacturer insisted, however, that he must have one. Finally after lengthy figuring the optician stated that he could make a glass straight-edge three feet long which would be straight to within a few wave lengths of light and that the cost would be about \$10,000.



THE manufacturer gasped at the price, and after further questioning the optician found that for the purpose for which the straight-edge was intended to be used an error of $\frac{1}{16}$ of an inch was negligible. A straight-edge with this error was considered by the manufacturer to be perfectly straight, while the optician considered the same straight-edge imperfect if it varied from a straight line by a few wave lengths of light.

Perfection Is Only Relative

THE point is, that perfection is only relative and if an article is exactly suited to the purpose for which it is intended, it is relatively perfect for that purpose. Centex quality is intended to be perfect for ophthalmic lens requirements.

WE pay \$100.00 more or less for a fine camera lens. Upon examination we find that it contains a number of bubbles. We know that it is impossible to obtain glass of the required optical properties for modern camera lenses without bubbles. In fact we have almost been educated to believe that without bubbles the camera lens is not a modern up-to-date article made of the finest kind of glass. As a certain percentage of bubbles in a camera lens do not affect its working in the least, we do not object to them. In ophthalmic lenses, however, we have become accustomed to condemn lenses if they contain any bubbles we can possibly see, although common sense tells us that a few small bubbles do absolutely no harm. The wearer would take the same view of the matter if he were instructed in regard to ophthalmic as he has been in regard to camera lenses.

Color Variations

AGAIN we notice frequently in a camera lens that the crown glass may be slightly green, or the flint glass slightly yellow. We have a feeling that the lens is all the better for it. It makes it look more "scientific." We would, however, absolutely condemn an ophthalmic lens of greenish or yellowish tinge, unless it boasted of a scientific sounding name and had a fancy price attached. Then we would probably accept it without question.

WE once asked a prominent oculist whether he considered variations of $\frac{1}{8}$ of a dioptre in the power of a strong lens often made any actual difference. He replied that it did not. We then asked him why lenses were condemned when in neutralizing the slightest motion was observed, although it might be only $\frac{1}{16}$ of a dioptre; whereupon he laughed and said, "not because it really makes any difference but because we are all on the defensive." The same applies to axis. The following case recently occurred in a prominent New England dispensing shop.

An Enraged Patient

A LADY had had her eyes tested and the prescription filled. But not being quite satisfied she had them tested again by another party, and came back to the dispensing shop in a rage. The first party had prescribed axis 90 both eyes, while the second party had prescribed axis 89 for right eye and axis 90 for left eye. The lady was convinced that the first party was incompetent. She had to pay for having two prescriptions filled, when except for the axis the two prescriptions were exactly alike. This, of course, is an extreme case,

but it illustrates the point that a set of standards to work to, with reasonable limits, is almost an absolute necessity.

ONE can readily see what a saving in time, temper and expense a set of standards with reasonable limits as to power, axis, etc., would be in the prescription shop. Right here let us say, that the British optician has a great advantage by having such standards, which have been approved by the British Optical Society. In a great lens factory like that of the American Optical Company where tens of thousands of pairs of ophthalmic lenses are manufactured every working day in the year, reasonable standards to work to become absolutely imperative.

IT was with the idea of having such standards to work to that the Centex lens was established, the idea being that Centex lenses should be, as closely as possible, perfect, ophthalmic lenses. In other words they must possess every requisite for the conditions actually acquired. These conditions are as follows, namely: power, center, and thickness within well defined and established limits (bearing in mind that they must, when edged, be neither too fragile nor yet too heavy. They must be finely polished without being over-polished. A lens not sufficiently polished may still give good definition while an over-polished lens will not.

(To be continued.)



The boxes that identify AOCO Centex Lenses.



Go After Those Leaders of the World Prizes

The Contest is on! All over the United States dealers are working at their windows like regular cut-ups, gingering and trimming them in their best "Sunday-go-to-Meetin's."

The Rice Leaders of the World Association Contest is under way: that's the reason. And there's an opportunity for you to be in on the prize money when the contest closes next May.

This Window Dressing Contest business is an up-to-date method of booming your sales: making last year's records look about the size of a pumpkin on the first of August compared with the size of the product

your kiddies will want to buy when Halloween comes round. Some one—in fact several optometrists and opticians—is sure this minute of getting some of these prizes, though we doubt very much if the fates have decided just yet which ones. But there are hundreds

more—yes, thousands—who won't get one of the cash prizes offered for the best displays, who will nevertheless have the satisfaction of making up some distinctive window designs that will call attention to their store and make their sales ledger sit up and make observations regarding the unusual prosperity of its owner. And when the contest is over everyone who was in it will receive a handsome souvenir album, presented by the members of the Association, containing photographs of the displays which won prizes. Nothing like this album has ever been issued. It will be unique—a book containing illustrations showing the crowning efforts of master window dressers in all sections of the country.

The American Optical Company is a member of the Rice Leaders of the World Association, and we want the Optical Profession to make the best showing of any industry that is represented in the Association. In order to do this we want *you* and everyone else to enter this Window Display Contest. You have already seen several of the announcements about the Association, which appeared in

the columns of a large number of the best known National Magazines. This is just the beginning of the publicity that will focus the attention of the public on the products of those concerns who are members of the Association.

How to take advantage of this growing publicity is the problem which lies before you.

Let us offer some suggestions. First, display the Rice Leaders of the World Association banner in your window. This can be obtained by writing to the headquarters of the Association at 358 5th Ave., New York, N. Y. This handsome banner bears the Association emblem, standing for Honor, Quality, Strength and Service; and a list of the members' names, of course including the American Optical Company. By displaying this you will focus the attention of the public on your store, as a representative of a member of the Association, who believes firmly in the sterling principles on which it is founded.

Next, take an active interest in the Idea Letter Contest, in which your customers should be participating. As you know, prizes are being offered for the best short letters containing new ideas either for the use or for the business advancement of members' products. Persuade as many as you can to enter this competition. Explain the advantages of AOCO goods. In this way you will be creating the most desirable form of publicity and your business will profit accordingly.

Make up your mind today to increase your business through the activities of the Rice Leaders of the World Association. You can do it.





Some Spectacle When AOCo Stars Get Busy on the Diamond

While the New York, Boston and Chicago papers devote most of their space to the American, National and Federal Leagues, there's a fourth big one which runs under the name of the Worcester Shop League. And in that



league is a constellation of base-ball stars who carry with them the base-ball hopes of the American Optical Company. We have even heard rumors to the effect that big league scouts were trailing around behind the grand-

stands on the AOCo grounds. But be that as it may, the boys certainly can play some ball. Shaping bridges, grinding lenses, and fitting frames has given them a batting eye that would make Ty Cobb jealous. And as for fielding, why one ball will almost last a season, it so seldom touches the ground.

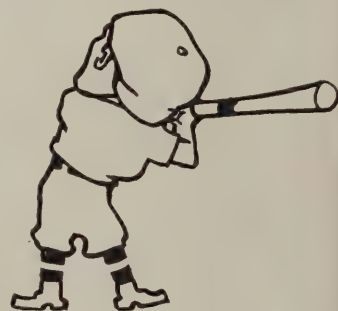
Of course it's too early in the season yet to tell just where the AOCo-ites are going to come out in the race for the pennant. But as we go to press we can throw out our chests and say that the boys are in a tie for second place, only one game away from



Big League Eyeglass-makers disguised as Ball-players.

the league leaders. The point is, though, that they're just getting into their proper stride now and we expect that in the future the little feller who puts up the scores of the opposing teams on the score board way out by center field fence will do his work with just about nine "O" signs, and have an easy time of it at that.

Any Saturday, if you're in Southbridge, we'll be glad to take you in and demonstrate how the National Pastime should be played. And then on the following Monday morning we'll take you into the biggest plant in the world devoted to the manufacture of optical goods, and show you how they should be made.



The Looks of the Fits-U Luxe

Well, we've asked you to say "How d'yu do" to the Fits-U Luxe eye glasses and we hope by this time you've done it. Now we want to show you how they're packed so that you'll recognize them even before you've seen them. First they're in a black box with gold lettering. Next they're in a special glascene paper envelope. If you open the envelope you'll find them, six in each,



on little square cards bearing their name and number.

This method of packing is much neater than the old style and enables you to show off each mounting more attractively and to much better advantage. You will like it, we feel sure.

The demand for Fits-U Luxe has proved its worth with a vengeance in the months since we first announced it. Those who are trying it are sending in reorders steadily. Better find out how it sells yourself.



Amoptico

Reg. in U. S. Pat. Off.

Vol. III July, 1914 No. 4

Published Monthly by

American Optical Company
1833-1914Channing M. Wells
PresidentAlbert B. Wells
TreasurerJ. Cheney Wells
Vice-President and Secretary

General Offices and Works

Southbridge, Massachusetts, U. S. A.

New York . . . 15 Maiden Lane
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Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.Copyright, 1914, by American Optical Co.
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THE best reward we can receive for the time, work and money we have put into Amoptico is to receive a letter like this from the Tucker and Gaines Company of Higginsville, Mo.

"We wish to give the American Optical Company the full credit for waking us up to the opportunity of the optical business in this locality. We were satisfied at one time to sell a few pairs of glasses a month and never made any effort to get the business until we began to receive AMOPTICO. We started in with the first copy that we received and at the present time we do more optical business in a month than we did previously in a year. This is not an exaggerated statement but an honest fact. We thank you for waking us up. We appreciate it so

much that we have told our principal jobber, Merry Optical Company, always to send us American Optical Company's merchandise."

Needless to say, letters like this are a great encouragement to us. We are always glad to get them. But we are even more anxious to receive letters containing honest criticism of AMOPTICO. We are very far from satisfied with it yet. We want to make it better every issue—and you American Optical dealers can do more than anyone else to help us in our work.

We want you to feel that AMOPTICO is *your* magazine—that it is published first of all for your benefit. We hope of course that by helping you to build up your business we shall increase our own.

So send along your brickbats as well as your bouquets. Don't be afraid of hurting our feelings. The more severe the criticism—provided that it is sincere and honest—the more we shall learn from it. All of us are likely to learn more from criticism than from praise. Praise often makes you rest on your laurels; criticism, if you have the right stuff in you, puts you on your mettle.

We also hope to receive from you contributions for AMOPTICO. We welcome, too, any suggestions for the improvement of our advertising helps to dealers. Photographs of good window displays and well-equipped optical shops will always be most acceptable. We invite your co-operation in our effort to make AMOPTICO a bond of union and mutual helpfulness between American Optical Company and its friends, the optometrists and opticians of the country.



TWO actors met on Broadway. Said one, "Have you seen my new play?" "Yes," replied the other. "When were you there?" asked the star. "Remember your last Wednesday matinée? That was me."

You doubtless have days during the summer months when your trade about equals the patronage of this matinée. Summer is called the dull season. It has been called the dull season so long by so many people that it actually is the dull season.

Yet during this period there are many merchants who refuse to regulate their business by the calendar, who work while others sleep, who advertise when others say "What's the use?" and who keep their windows and their whole establishment as inviting as a jewelry store at holiday time.

Doubtless the Optician thinks that if he could close up his store during the summer months he would be money ahead. But he cannot do it and therefore his rent goes on, his clerk hire goes on, his interest on his investment goes on and it is up to him to go on instead of just marking time.

And he can. His advertising will get more attention because his is the only advertising that is being done. His windows will get more attention because other windows are neglected. Everything he does during the so-called dull season to attract trade will attract especial attention because others in his line are inactive.

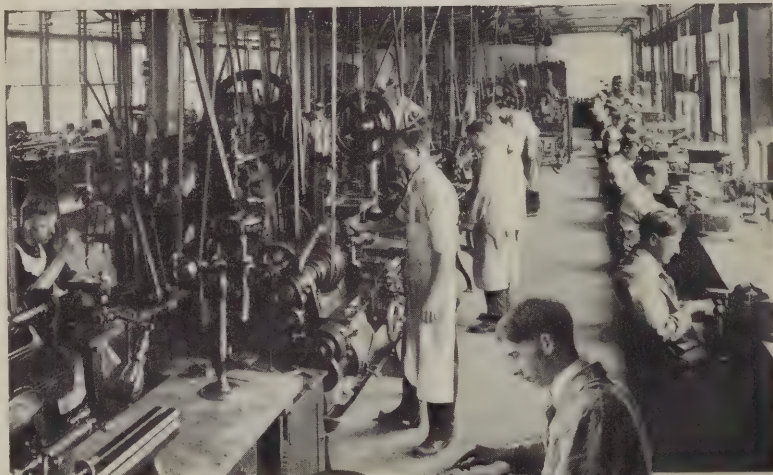


What the AOCo Stamp on Gold-Filled Goods Means

"Here's another pair of gold-filled specs returned to us because the customer says the gold didn't wear," says the factory foreman as he walks into our office. "And you can actually see the file marks on the bridge where someone has been working. How do they think a shell of gold will wear if it is all filed away? Do you know, about three-quarters of the goods that are returned are for just such reasons as this. They're not handled properly after they leave the factory."

While that exact conversation never took place it is nevertheless fairly typical of others which have actually occurred. Time and again when goods are returned to us in a mutilated condition, they show that lack of exact knowledge of how to treat them has resulted in mishandling and consequent dissatisfaction. The thickness of the gold shell which is used on gold-filled stock cannot be great, as a moment's consideration of the matter will show. Given proper treatment a well-made gold-filled spectacle or eyeglass frame will wear years and years. But the best gold-filled stock made will not last when subjected to filing, careless bending, or similar kinds of misuse.

American Optical Company gold-filled goods are given a care and attention that results in a product which has become a standard of excellence the world over. The underlying reason for this is the exceptional care taken to keep every mechanical operation through which the goods pass in process of manufacture at its highest efficiency. If, for example, you were to examine the rolls through which AOCo flat gold-filled stock is passed (as described in our March AMOPTICO) you would find they have a "mirror finish." And they are always kept in that same perfect condition. If you examine the dies through which gold-filled wire is drawn you will find them as smooth and perfect as human skill can make. This is an absolute essential of all AOCo work. If the slightest roughness occurs in rolls or dies at any stage in the many manufacturing operations, the roughness is immediately transmitted to the gold-



The Die Room where the AOCo dies are made and repaired

filled stock and the shell of gold is injured and weakened at that point.

There are two ways of "getting around" such damage to stock. The first and most obvious is to eliminate the difficulty entirely by insisting on as close-to-perfection dies as can be made. That is the AOCo way, which we will describe. The second is to allow the stock to go through, and then by the aid of "rouge" and buffing machines, remove all traces of the rough spots. That is the cheaper method. And from the appearance of the goods as they reach you, you will be unable to say that it has been used. But the way in which the goods wear will surely disclose it. For in order to buff out the marks in a faulty frame it is necessary to use the wheel so vigorously as practically to destroy the thin shell of gold on which the value of the eyeglass or spectacle depends. The AOCo could finish its goods by this method—but it doesn't. Rather it prefers to spend large sums of money on the up-keep of its tools in order that a minimum of polishing may be necessary. Special machines and methods have been devised for doing this finishing work, which account for the superior lustre of AOCo goods. By these processes an unusual polish is not only obtained, but it is done without buffing away a part of the gold-filled shell which is so essential to the life of the goods. You can readily appreciate the advantages of this method.



But to return to the proper handling of AOCo gold-filled spectacles and eyeglasses. We are showing a photograph of a bridge bearing the marks of improper treatment. Notice the series of dents which occur near the shank of the bridge. These have been caused in an effort to change the contour of the bridge, and round nose pliers were used in the attempt. The natural result was that the grip necessary to change the shape of the bridge caused the indentations shown. These could easily have been avoided had pliers with proper-shaped jaws been used. A more general pressure with hollow-chop pliers having a wider surface distribution would have gained the necessary adjustment without damaging the metal. We have already mentioned the error which is frequently made of using a file on gold-filled goods. A moment's reflection will show what a mistake it is to do this. Such filing destroys the gold shell and leaves the core metal exposed to wear.

Notice in the view of the endpiece that there are marks appearing where an attempt has been made to change its angle. This has again been caused by using wrongly shaped pliers. It often happens that a too hasty attempt to adjust endpieces in this way not only marks the endpiece badly but destroys the head of the small screw, preventing further manipulation.

One of the most common errors made in the handling of fingerpiece mountings is the attempt to force a strap to take a thicker lens than that for which it was intended. This very frequently, and quite naturally, leads to breakage.

The best and simplest way to avoid mishaps such as these is to provide yourself with a full assortment of sizes in spectacles and eyeglasses. You will then find that a very slight adjustment will give you a perfect fitting mounting every time. Be sure to keep your supply of styles complete. Furthermore, investment in the special AOCo pliers made for adjusting frames and mountings will prove well worth while. You will then be able to make minor adjustments without fear of injuring your goods.

We have mentioned the fact that the keeping up of the AOCo manufacturing equipment is a vital part of all gold-filled stock making. A visit to the AOCo die department would be a revelation to you. It is by far the largest of its kind conducted by any optical goods manufacturer in the world. Here we make our own dies, under our own supervision, the work being done by specially skilled workmen, who by long experience in optical work have become thoroughly familiar with every requirement. Special die

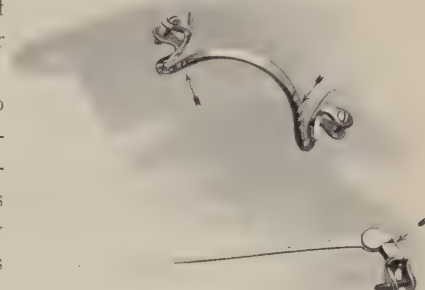
experts are employed whose sole duty it is to keep AOCo dies up to the highest standard of perfection. The work of the department has also been subdivided until certain workmen have special kinds of dies in their especial charge.

In addition to the big department devoted exclusively to this work, many others, such as the gold, steel, and gold-filled goods departments have die specialists who are continually on the watch to remedy whatever minor faults may develop.

Such portions of frames as bridges, temples, and eyewire are "reduced" from seamless gold-filled wire, so there is no joint during their entire length. It is impossible to do this, however, with irregularly shaped guards, and these are therefore died out of flat stock. The making of these dies for gold-filled work is a fine art. If parts that are made from flat stock were cut out by the ordinary die, their edges would be left exposed without a covering of gold. Dies are therefore made with special shapes and with rounded edges, in such a way that the gold is pulled over the edges of each piece as it passes through the die.

The AOCo is continually on the watch for whatever improvements are made in steel suitable to the making of dies. If any new alloy is announced and proves after exhaustive tests to be superior, it is adopted for the company's work.

These points, which explain a few of the reasons for the unequalled excellence of AOCo gold-filled spectacles and eyeglasses, should be remembered when you send your next order to your jobber. The energy, the inventiveness, the insistence on mechanical excellence which are a part of the AOCo manufacturing processes guarantee you a product that can be relied upon at all times. It will pay you to see that the AOCo trademark, the assurance of honest quality, is on every pair of gold-filled spectacles and eyeglasses you order of your jobber.



Photograph showing marks of pliers on badly handled bridge and endpiece.



THIS MONTH'S SELLING HELPS



New Fits-U Circular

All Fits-U dealers will be glad to learn of this newest avenue of publicity, in the form of a circular, advertising Fits-U eyeglasses. It is quite unique in its arrangement and we know that the "copy" will prove interesting and instructive to your customers.

We have distributed hundreds of thousands of the Fits-U circulars entitled "To Men and Women Who Wear Glasses" and "To Men and Women Who Not Wear Glasses," so we know that there will surely be a large demand for this latest circular. Following our usual custom we will send a good supply of these to you free, all imprinted with your name and address, if you guarantee to use them.

Have you a friend in the optical business who does not now receive AMOPTICO? If you have we should very much appreciate it if you would write to us asking that he be put on our mailing list. We can then see that AMOPTICO is sent to him regularly. We will also be glad to write to him saying that it is because of your thoughtfulness that we are enrolling him as a regular subscriber.



Two Big Exhibits

We're buzzing 'round like the proverbial B. B. these days preparing for two big exhibits which we shall shortly show. One of these is to be at the coming A. O. A. Optometric Congress at St. Louis, July 18-25. At this convention, held in the Planters Hotel we will be represented by a splendid display of optical goods which you will appreciate if you can possibly be there and see it. It will comprise samples of the newest developments in eyeglasses, spectacles, cases, etc., that will be well worth careful examination. When you are at the convention, make a bee-line for the AOCo booth.

Our second exhibition will be at the great Panama Pacific exposition at San Francisco in 1915. The display will be in the nature of an educational display, designed to acquaint the many hundreds of thousands of visitors who will be there, more thoroughly with AOCo goods. We hope you've got a little cross on your 1915 calendar meaning "That's when I start." AOCo men will be there most of the time ready to meet and welcome you. Plan to come.

A Business Getting Blotter

The man at his desk always welcomes a new, clean, thirsty blotter. Here is one to enclose with your

Fits-U Eyeglasses



they are more than becoming
they are comfortable.

Look for this mark  on the Bridge

AOCo Blotter No. 5B1

correspondence and statements. It costs you nothing to get your advertising under the fist of prospective customers in this way. All you do is ask us for the blotters and then ask Mr. Two-Cent Stamp to carry full cargo instead of getting away with only half a load.

This new blotter will deliver its message wherever it goes. It is attractively printed in two colors and is not only a good blotter but a good ad. We shall be glad to print your name and address on a reasonable supply without cost. Send on your request.

Here's an Old Favorite, in a New Dress

Some time ago we issued what proved to be one of the most popular circulars on Kryptok lenses ever printed. Hundreds of thousands of these were sent out and put to good use in advertising these popular lenses. But the demand for them has still continued. So we're issuing it again under a new disguise. It still has the same real selling punch to it and should be a big help toward boosting your Kryptok Sales.

Don't forget, too, the Kryptok folder arranged in the form of a Catechism. Either of these circulars will be imprinted with your name and address and sent to you free in reasonable quantities if you wish. Send in your requests and be a little booster for larger sales of Kryptoks.

"Movie" Eyestrain

It has been estimated that 16,000,000 persons go to the "movies" every day in this country.

There are few severer strains on even the normal eye than long continued concentration on flickering



AOCo Lantern Slide No. 11

moving picture films. Movie patrons with the slightest weakness of the eyes are almost certain to develop, before long, symptoms of eyestrain.

The optician who realizes that every moving picture audience includes a great many possible customers will be quick to appreciate the advantage of lantern slides such as are illustrated on the accompanying page. Thrown on the screen toward the end of a movie show, when long concentration of the eyes upon the films has made the spectator painfully aware of any tendency toward eyestrain, a suitably worded lantern slide is bound to make an instant and emphatic impression.

We are prepared to furnish dealers in American Optical Company goods any of a large variety of lantern slides. Write us for a list of the slides available and arrange to have them shown at your local moving picture house.



Special Lantern Slides at Small Cost

Several requests have come in to us lately from men who wished to have special lantern slides made for them, containing some particular picture or text—quite often a catchy phrase which is being used in their other forms of advertising to good effect. They set us to thinking about the subject with the result that we are now prepared to make special slides for you. Here's how:

If you want an illustrated slide with special wording or a special photograph on it, send us the photo-

graph you have and the "copy" you wish reproduced. We make this quite natural stipulation: your copy must contain some reference to Fits-U's or other AOCo goods. We will make a lantern slide for \$1.00. Your copy must not contain more than ten words; in fact, the shorter you can make it the better, for it will be the more quickly read and its meaning fully grasped. This is a fine chance to make your pet advertising photo or phrase available for the "movies." Try it out and see how it works.

Two Inches Single

"Clean-up" Baker, the batting marvel of the Champion Athletics says he always hits where the fielders ain't.



AOCo Electro No. A29

There are times when you can hit where competition "ain't" and one of those times is right now.

The way to hit safely is to advertise.

"Why advertise in the quiet season?" asks the pessimist.

"To take the 'q. t.' out of quiet," answers the optimistic optician.

Right now a small ad in the newspaper—2 inches square is big enough—looks big and goes a long way. It has no competition, hence it reaches all the trade there is.

Here are a couple of examples of good use of small space. It costs

little to run these ads but they stand a good chance of bringing the optician who runs them more than his share of the summer trade.

Do not stop asking for business. If others stop, it's all the easier for you to get a hearing.



AOCo Electro No. A28



An Invitation from the AOC_o in San Francisco

The rapid expansion of our western business in 1910 and for some years preceding that date led the AOC_o to open a branch office in San Francisco on January 1st, 1911. A splendid location was selected in the Sacks Building, at 140 Geary St., directly in the heart of the business center of San Francisco, and it is there the American Optical Company keeps open house today.

Mr. J. W. Payne has been in charge of this office ever since it was opened, and he is probably one of the best known and best liked optical men in the Pacific states. Mr. Payne has associated with him Mr. F. W. Starrett and Mr. H. C. Shumaker, both of whom have also been with the office since the opening.

The American Optical Company extends a cordial invitation to its many friends to visit this office when in the city. It will afford a splendid opportunity to examine the full line of samples which is always on view and will give us a better opportunity to get acquainted.

Capitalize the Rice Leaders of the World Association Emblem

The Rice Leaders of the World Association Emblem is daily becoming better known to the people in your locality. They are reading about it in the magazines, seeing it displayed in stores of all descriptions, learning that it stands for the highest principles of business honor and efficiency. It is becoming an emblem with a definite sales value, with a good will that is worth many thousands of dollars.

You should identify yourselves with this emblem and capitalize it. You have the privilege of doing it when you sell American Optical Company goods, for we are a member by invitation of the Association. Your customers as they become more and more familiar with the emblem will mentally associate your store with it. In this way you will reap the benefit of the prestige which the emblem and the Association for which it stands carry, and with its help you will be able to push forward to a bigger, better business than ever before.



OVER the FITTING TABLE

Those who passed the optometrist's open door at about four o'clock on this particular summer afternoon might have caught a glimpse of two heads just visible above the show case inside, and seen the flicker of two palm leaf fans waving languidly back and forth, their very action betokening the indolent comfort in which the all but unseen talkers were spending the sultry hours.

The machinery salesman, just back from a selling trip, was speaking to his friend the optometrist.

"Anything new under the sun?" he asked. "Haven't been in to see you for so long that I'm thinking it's about time I got your professional advice on my eyes. I can see all right when I look off at a distance, but these glasses trouble me when I have any writing or reading to do. What's the answer?"

"The answer is, my friend, that you need about \$15.00 worth of bifocal lenses," said the optometrist.

"Ouch," murmured the drummer as he heard the price. "That's as funny as a Dutch funeral. I'll have to be game though. Tell the rest of the tale. I hardly know what a bifocal is."

"You're not the only one. I have lots of customers who say the same thing. A bifocal lens is one which has two foci. I won't go into history to tell about them except to say that the earliest forms were merely two segments of lenses combined, each ground with a different focus, and held in place by the eye-wire of the frame. Then improvements were made, and segments ground to a different focus were stuck on the surface of each lens. But the segments weren't handsome to look at, and were always working loose. The next step was when two pieces of glass were fused together, each ground with its own focus; and this form has a great many advantages. It's hard to see the segments when you're on the outside looking in, and there isn't any visible line when you're on the inside looking through them. But all the improvements have tended in one direction, though, and the price of \$15.00 I quoted you was for the newest thing out, the "Uni-Bifo Onepiece Bifocal Lens."

"What's that?" asked the salesman.

"The Uni-Bifo Onepiece Lens is a single piece of

glass on which two lenses are ground, one for reading, the other for distance work. Uni for 'one,' Bifo for 'bifocal;' " continued the vendor of golden pince nez grandly, throwing in an airy wave of his left hand

by way of further explanation. "It's a trade name, you see. The "e" is silent as in "fish." Comprenez?*

"I'm beginning to "comprenez" why it sets me back fifteen bucks," replied the machinery salesman in a mildly sarcastic tone. "Let's see one of 'em. I expect a lot for my money. They must be a sight. What do I get that I can't get with anything else?"

Rising leisurely the optometrist crossed the room and presently returned carrying in his hand a lens which he dropped into the waiting palm of the salesman. "Have your look," he remarked briefly. "That's the one thing I don't charge for in this place—that and good advice."

"Um," said the machinery man, holding the lens out for the optometrist to take back. "I thought you were trying your little game on me. That's no more a bifocal than I am."

"Look again, friend," urged the optometrist tranquilly. "Hold it over this printed circular and look again."

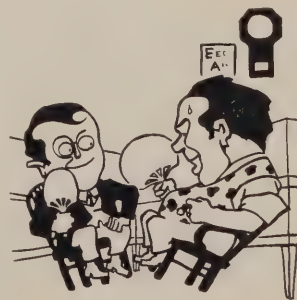
"By jove, you're right. There *are* two foci there," came the reply as the salesman bent forward and focused the lens as directed. "That surely is all right."

"Sure it is," said the optometrist. That's why the price of \$15.00 is all right. If you *want* something that's right, you've got to come through with the "kale" these days. You see it's so invisible, —as a bifocal, I mean, that you thought I was fooling you just now when I gave it to you. When it's actually in place it is even more difficult to tell that it's a bifocal. That's one reason you need 'em. Folks won't know you wear bifocals. Then, too, they're thinner than any other bifocal lenses."

"Good," commented the salesman as his friend paused.

"You'll never see any 'colors' with them, because

* French; pronounced "Comprenez."





the whole thing is ground on one piece of glass and the rays of light won't get all split up by interference. Did I ever tell you—"

"Whoa," interrupted the salesman. "We're talking bifocals now."

"Well, that'll keep till later, then," said the optometrist reluctantly, "Here's the rest of the bifocal story. These Uni-Bifo Onepiece Lenses are only made in Toric form so they hug your eyes closely and aren't noticeable. And the crown glass they're made of is very hard to scratch. Oh, they're good things all right."

"Rather expensive for you to handle, aren't they?"

"No, I figure this way. Some one in this town is going to get the high-grade customers. If I sell the

best thing there is in this line, I get that trade, and I become known as the man who's got the best optical goods in town. I'm not in business to sell \$5.00 glasses for \$1.00. I'm in it to make money and keep up my high standard reputation. So I'm going to sell 'em."

"Good stuff," said the knight of the road sincerely. "Put me down for one pair of AOC_o Uni-Bifo Onepiece Bifocal lenses."

"I'll do that, my friend, and I'll give you a choice of two sizes of reading segments too. Come in tomorrow morning and I'll examine your eyes again."

"Um-Hm," assented the salesman. And once again the fans began their steady waving, as the voices ceased.

AOC_o Toric and Meniscus Lenses

Why You Should Use Them

Probably there is nothing running around the streets of this country today which will make people stop and "rubber" sooner than an automobile (now so-called by courtesy) of the vintage of—let us say 1902. They are still to be seen, or rather heard roaming around, but no one would defend their use on other than economical grounds. They have been so far outbuilt as to be almost ludicrous.

People do not yet turn to grin as a man or woman passes them wearing flat lenses. For one thing, they don't make a noise. And again the public are not so well acquainted with the disadvantages of flat lenses when compared to Toric or Meniscus lenses as they are with the comparative value of a 1902 and a 1914 model auto. But the disadvantages are there, just the same.

Suppose you have carefully examined and prescribed glasses for the eyes of a patient. Later he walks out of your office with the correct prescription. But before he is hardly out of your room he may have looked through the wrong prescription half a dozen times; for the correction near the edge of a flat lens is different from that in the middle. This is due to the fact that the rays of light when passing to the eye from points near the edges of a lens are forced to pass obliquely through a different thickness of glass than is found in the center. The variations due to this fact can be readily calculated, and indeed specific calculations for one lens showing the amount of ophthalmic errors were given in the March issue of AMOPTICO. It is a fact that the Toric or Meniscus form of lens permits the wearer to look through any part of the substance of the lens nearly at right angles, and the result is that your prescription is

much more accurate. A very much wider field of clear vision is possible than can be obtained with a flat lens.

Occasionally you will find a customer who is sufficiently annoyed by the rear reflections of flat lenses to mention the fact. Many others will probably never mention it although the irritating disturbance is noticed. With Toric or Meniscus lenses this is entirely avoided.

Do not forget this point, too: the deep curve of Toric and Meniscus lenses allows plenty of room for long eyelashes, while at the same time the edges of the lenses hug up close to the eyes, thereby being very handsome and neat appearing.

Ask your jobber to supply you with AOC_o Toric and Meniscus Lenses. Don't sell "last year's models."



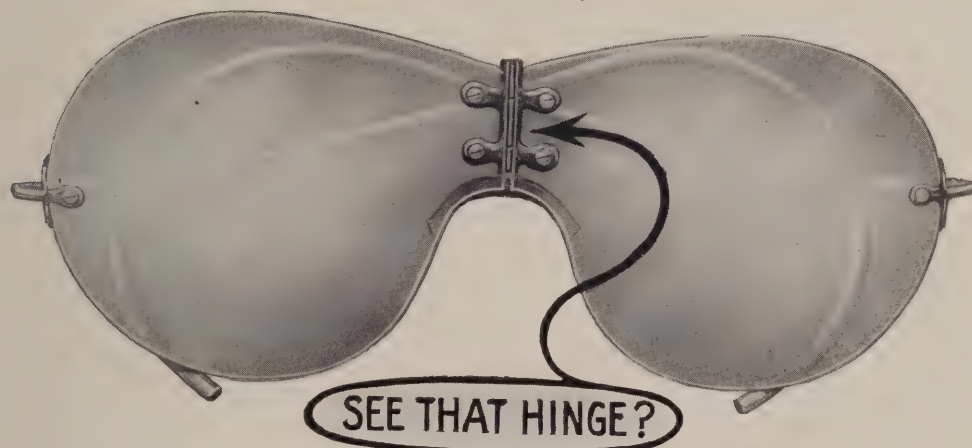
Ovalon Eyeglass Springs

You know what an Ovalon finger-piece eyeglass spring is? And how stiff and unbreakable it is? Then you'll appreciate the merit of the AOC_o Ovalon regular eyeglass spring. It is in a class by itself so far as stiffness and strength are concerned. The oval cross-section in which form it is made gives a life and rigidity to AOC_o spring eyeglasses never before equalled. You cannot warp them back and forth when they have the Ovalon construction.

Be sure and specify the AOC_o Ovalon spring of your jobber when you send in your next order for eyeglass springs. You will be delighted with it.

The AUTOGLAS Now Ready for AOCo Dealers

PATENTED MAY 2, 1911



MADE to conform to the shape of the face and nose. All dust and even wind is excluded, and absolutely unobstructed vision is provided.

No uncomfortable cloth or chenille binding. All glass except the hinge center piece and temples (made of a good quality gold-filled, with temples covered by woven tubing to make them easier on the ears). The hinged center piece in connection with four different curves on the inner edge of lenses, allows exact adjustment to individual requirements.

The AUTOGLAS does not heat the eyes, as it is open on the sides, allowing maximum ventilation, yet providing perfect protection at all times. It was originally designed as a shooting glass and being peculiarly adapted to that purpose it is being used extensively by the leading trap shooters of the world as well as by the leading automobile drivers.

Supplied regularly with amber lenses of periscopic shape, absolutely without focus. If desired it may be procured also with prescription lenses having the individual wearer's correction. While amber is usually desired and is supplied unless otherwise specified, white lenses will be supplied at the same prices.

The AUTOGLAS is made in four shapes, two regular size and two large size. A set of the four for trial purposes is recommended.

The minimum retail prices on these glasses, complete with case, are as follows:

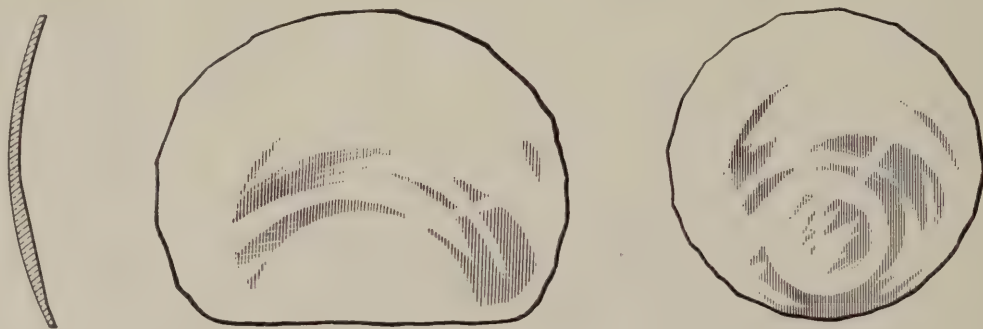
PLANO MENISCUS		PLANO MENISCUS	
AUTOGLAS Complete with Case, Retail Price	\$5.00	Repair One Lens, Retail Price	\$2.20
Trial sets in case, comprising four Goggles, showing each of the different shapes, will be furnished at a cost of \$20.00.			

EXTRAS.

In addition to the above prices, the following Extras will be charged:

For Plano Meniscus Motor Glasses, dark amber and smoke	\$0.50 per pair extra
For Prescription AUTOGLAS, dark amber	2.25 per pair extra
For Prescription AUTOGLAS, smoke or fieuzal	4.50 per pair extra
For Plano Meniscus and Prescription Motor Glasses, other than regular shapes	\$1.00 per pair extra

Advertising Material on request. Write your jobber for terms and other particulars.



A Single Solid Piece of Crown Glass

Two Lenses ground invisibly on its surface with no dividing line—as thin as you choose to have it—absolutely no color aberration—true ophthalmic values—that's what you get in the

AOC_o Uni-Bifo

REG. IN U. S. PAT. OFF.

Onepiece Ophthalmic Bifocal Lens

The perfect Bifocal, Covered by Exclusive Patents.

It has taken generations of test and experiment to evolve this perfect bifocal lens. They may now be obtained from any jobber who holds a finishing license. Two sizes of reading portions are available: 19 mm. round or 30 x 15 mm. half-round.

Try AOC_o *Uni-Bifo Onepiece Lenses* on your next bifocal prescription. They will make your customers walking, talking advertisements for your store. Insist on AOC_o make.



AMERICAN OPTICAL COMPANY

SOUTHBRIDGE

MASSACHUSETTS

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. 3

August, 1914

No. V



The Home of AOCO Centex Lenses

FINAL FINGER PIECE INSPECTION

Order No. Quan. Doz. Cat. No.
 Quality Style Guard

Weeding Out the Unfit

EVERY Fits-U Luxe eyeglass is formally inspected fourteen separate times before being passed by a Master Inspector and declared ready for your use. In addition to this, every operator through whose hands the material passes, is held individually responsible for the quality of workmanship it receives. From the "blanking out" of parts to Final Inspection the most rigid scrutiny is maintained. Over a score of separate and distinct possible defects are recognized and guarded against. The slightest flaw in material or workmanship is immediately caught and corrected.

Why do we have fourteen inspections instead of twelve, or ten? Because we know that it is only through such extraordinary care that we can continue to receive such letters as this written from a Kentucky firm: "We are now making it a practice to show each patient the AOCo mark in the frame or nose piece and impress on them the quality of all AOCo goods."

If you would like to be able to write as enthusiastic a letter as that about the eyeglasses and spectacles you sell, specify those which bear the AOCo trade mark. You can rely on them at all times and under all conditions. AOCo Fits-U Luxe eyeglasses are *right*.

Send an order to your jobber for the new Fits-U Luxe eyeglass and see what real art and quality in eyeglasses means.

No. 03121 Fits-U Luxe Eyeglass, Patented (Ovalex).

1-10 12K Gold-Filled Mountings

10K Gold Mountings

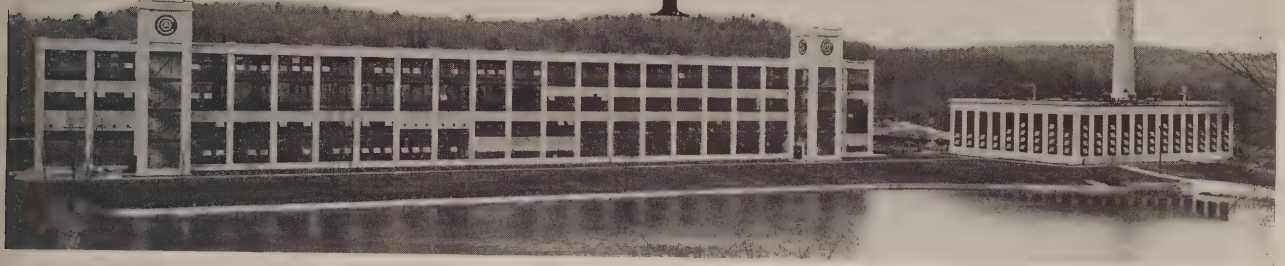
\$7.50 per dozen

16.50 " "



U. S. and Foreign Patents

Amoptico



Through the ACoCo Machine Shops

There is always a bit of excitement and newness when one "gets behind the scenes," with the opportunity of seeing how things are done—whether those things are manufacturing processes by which matches are made, the devices by which stage effects are secured, or the operations essential to the production of optical machinery. Everyone has the child's bump of curiosity developed to a more or less marked degree, usually more, when anything connected with one's business is the subject for investigation. Optical machinery production does not differ materially from the production of other types of machines, in so far as the general mechanical features of the work are concerned. But the production of optical machinery does differ in all companies because of variations in equipment, men, material and experience. You who are using ACoCo machines, and you too who will be using them very soon will find it interesting to take a bit of a word trip through the ACoCo departments devoted to this work, and listen to the foreman, as he explains the splendid methods and facilities by means of which ACoCo optical machinery is produced.

The machine department, or departments, rather (for there are several of them occupying many thousands of feet of floor space on parts of two floors in the great ACoCo main factories), consist of the blacksmith's department, the oil tempering room, the grinding department, the main machine room, and a number of auxiliary departments. These departments deal directly with the optical machinery you buy. In addition to these, several

departments are devoted entirely to the business of the machines used by the ACoCo in its own work, which in itself is a heavy task, because of their great number.

Come with us, then, through these various departments, and see how ACoCo machinery is made. Just to have some definite interest, let us follow the route taken by one of our new M72 edging machines, from the time the rough castings are received at the basement door, till the machine quits these departments for the few finishing touches that are applied elsewhere—which, as Kipling would say, "is another story."

Designs for our machines come from our own drafting department, and such of them as contain parts which require iron castings are sent to the carpenter shop where wooden patterns are made.

These patterns, constructed by men thoroughly familiar with this particular style of work, are then sent away to the foundry where the castings are moulded.

When the castings are received they are taken at once to the big grinding room. Here are the heaviest machines used in optical work—huge milling machines, grinders and drills, accurate to the thousandth part of an inch. On both sides of the room the light

streams in, ensuring ideal conditions for perfect work. In this room the heavy iron castings are "snagged," as it is called, or, in colloquial language, filed and smoothed off to remove any possible marks left by the moulds. Here, too, the heavy drilling on the "tub" or base of our M72 grinder



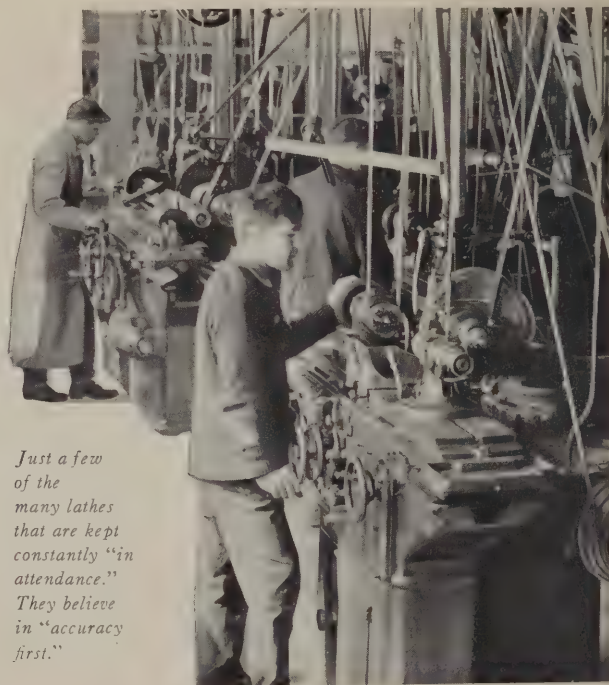
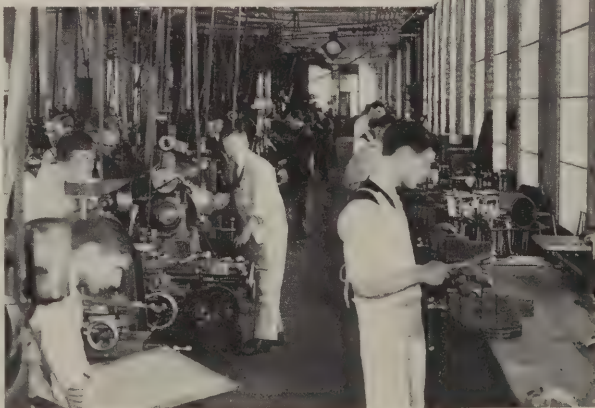
A part of the main machine room.



Iron makes a tender morsel for these drills.

is done. A perfect hole must be bored for the stone arbor, the differential gear shaft (which governs the speed at which the grinding stone moves from left to right and back as lenses are ground) and the hole for the pin that secures the hone holder, above the stone. Smaller castings are also sent here for treatment. The stone arbor is ground to gauge and the flange to which the stone is attached is snagged, turned, drilled, and reamed. One interesting little process takes place which deserves mention: the stone is set into its iron flange with sulphur. To do this it is necessary to melt the sulphur and pour it between the stone and the flange, while in liquid state. The low melting point of sulphur makes it a very nice task to manipulate it properly without allowing it to catch fire and for this reason the work is always done under the personal supervision of the foreman.

From the grinding room, where the snagging, grinding and heavy drilling is done, let us follow our machine to the milling section of the main machine department. It is not necessary to describe this work in detail; anyone really interested in the processes could spend a long time watching its progress. The "tub" of the M72 machine is here milled to allow the caps which fit over the steel arbor on which the grinding stone turns, to fit smoothly. The distance between the bearings must be milled, that the stone may have free play, as must also the base of the swinging head to which the lenses are fastened during the grinding process. Various other parts must be milled as well. Then they are ready to be assembled.



Just a few of the many lathes that are kept constantly "in attendance." They believe in "accuracy first."

So much for the larger castings. They have taken us through the grinding and milling departments.

While this work has been in progress the smaller parts of the machine have been shaped in other departments. Without attempting to follow each

This equipment makes for good work.

part, let us watch the progress in the manufacture of the five formers, governing the shape of the lenses you grind. The arrangement of these formers is an exclusive patented AOCO feature enabling you to obtain round or any of the regular oval eye forms without removing or changing formers. They are arranged together in graduated widths. But each long axis is exactly the same length to within .0015 of an inch. With the use of a

perpendicular adjustable shoe behind the formers, any particular one may be brought into play without removing or adjusting the others.

The process of making these formers is interesting. From a bar of "Styrian" steel (a special high grade quality with peculiar hardness and wearing qualities), flat wafers are cut, or "turned up," as it is called. The centers of these wafers are then drilled, reamed



Another big room only a part of which can be shown. The men in back at the right are "Snagging" rough castings.

general catalogue gives full descriptions of our optical machinery, and we would be glad to send you one.

Corundum Best as an Abrasive Agent

A good many years ago, when ophthalmic lens grinding was in its "salad days" (to quote from the immortal William S.) it was thought that a certain amount of *dirt* was essential to the proper grinding of a lens.

We know better today. Experience proved it was not so. Dirt does not assist the grinding operation in any way.

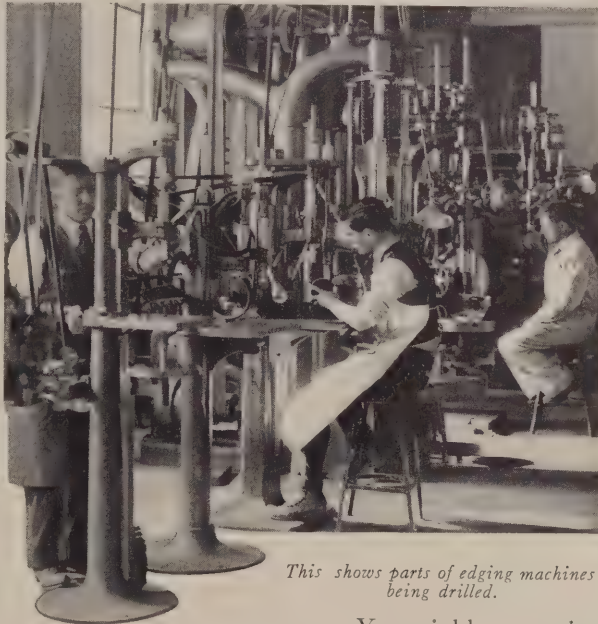
When you buy "just emery" you buy from 25 per cent to 35 per cent impurities, or *dirt*. And that dirt does not do you one bit of good. It is exceedingly expensive dirt to buy.

Corundum in its pure form is composed of from 90 per cent to 95 per cent aluminum oxide. It ranks next to the diamond in point of hardness.

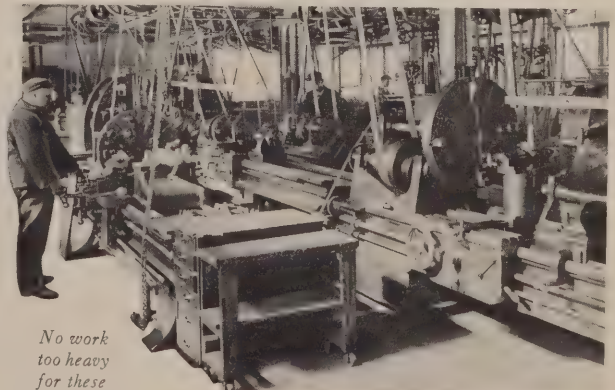
The AOCo uses corundum in its own lens grinding, and sells to you, corundum of the best and most uniform grade obtainable for smoothing and finishing. This material has the ideal properties for ophthalmic lens grinding. It is graded in our own factories to an astonishingly accurate degree, so that it runs perfectly even and avoids all possibility of scratching.

AOCo abrasives are still called "emery" as a trade term, although we supply corundum except for roughing purposes. You get the benefit of the change.

Your jobber carries the various grades in five pound cans.



This shows parts of edging machines being drilled.



No work too heavy for these workers.

out and slotted to receive the shaft around which they will later fit. Special lathes are next brought into play, turning with cam movements that produce the required oval form to within .015 of an inch from the finished size. Thus roughed out as ovals they are taken to the blacksmithing department to be hardened and later tempered in a special oil tempering machine. A somewhat similar proceeding is carried through in the case of the "shoe," against which the formers work.

When the various parts have gone through every process and stand completed, they are brought together for a final inspection and assembling by the bench men, in the main machine room. Here the final adjustments take place, and the machines are prepared to undergo a thorough test before being approved. If the slightest irregularity in the smoothness and efficiency of the action is discovered, machines are at once returned to the shop for further adjustment.

The AOCo machine shops are the largest and most completely equipped of any in the world devoted to the production of optical machinery. And it is because of this fact, and the fact of our splendid experimental and planning departments, coupled with our long experience, that we are able to offer you your choice of the largest and best line of optical machinery made. You will make no mistake in buying machines that bear the AOCo trade mark. Our



Saving Labor and Ensuring Results with The AOCo Lens Centering Device

Do you occasionally cut and edge a lens off centre or axis? The chances are you do, unless you own one of these AOCo Lens Centering Devices, No. M112. If you use one of these in your work you will be able to avoid such troubles hereafter. Set one of these up just in back of your cutting machine, so that the eyepiece comes up over it. It can then be used to check your work before cutting. Just a glance at the target with your lens held in position on the hard rubber points of the upright fork and you can determine the axis instantly. When the center of the lens is over the intersections of the principal cross lines, the lens may be dotted with ink.



For strong lenses there is provided a means of sliding the target forward within the focal distance.

The rod which supports this target is marked at that certain point where it should be set when decentering for prismatic power. At this point the principal vertical lines of the target represent power in prism dioptries, and the power of your prism may be read off at once.

The device may be tilted at any angle to suit your convenience.

It is provided with a broad circular base to avoid all possibility of tipping over when not screwed to the bench.

An AOCo M112 Lens Centering Device may be bought of your jobber for \$10.00 net. You will find it a very convenient saver of time, temper, and money.

Unobstructed Vision with the AUTOGLAS

Have you ever heard the story of the famous lecturer who was one day being driven by a darky cab-driver to a Chautauqua lecture in a small town where he was booked to speak? Here goes, anyway—

The darky, very curious to know what the lecturer's business was, finally asked: "An what is *Yous* selling, boss? You 'pears to me you looks like a commercial traveler."

The doctor replied with a grin: "I am selling wit and wisdom."

The darky scratched his head for a minute and then remarked: "Well, boss, you is de first drummer dat I been drivin' dat ain't got no samples wid' him."

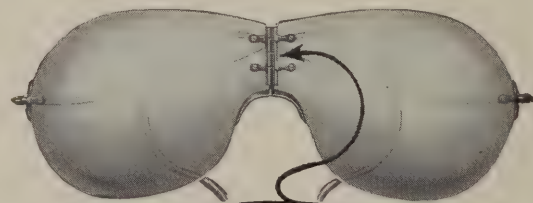
Now there are no samples of the AUTOGLAS concealed within the pages of this magazine, much as we should like to send some. But the next best thing is just to read about them. Their chief advantage is that they afford absolutely unobstructed vision. The hinged joint (patented) allows the lenses to conform exactly to the individual facial characteristics of each wearer, thus affording perfect protection. Temples are covered with woven fabric tubing to make them comfortable on the ears. A good quality of gold-filled stock is used for both centerpiece and temples.

The AUTOGLAS is supplied regularly with amber colored lenses of periscopic shape, with an inner

ground meniscus curve of 6 dioptries instead of bent glass, and is absolutely without focus. They may be procured also with prescription lenses, having the individual wearer's correction if so desired.

The AUTOGLAS is made in four shapes, two large and two medium; and a set of four for trial purposes is recommended.

The minimum retail prices on these glasses, complete with case, are as follows:



SEE THAT HINGE

(PATENTED)

PLANO MENISCUS

AUTOGLAS Complete in Case, retail price	\$5.00
Repair One Lens, Retail Price	2.20
With correction Cylinder not over 2.00 D and total focus not over 4.00 D complete in case, retail price	9.00
Repair One Lens	4.20
When correction exceeds 2.00 D in Cylinder or 4.00 D total focus	13.00
Repair One Lens	6.20
Trial Sets in case comprising four glasses, showing each of the different shapes	20.00

EXTRAS

In addition to the above prices, the following "Extras" will be charged:

For Plano Meniscus Glasses, dark amber, Fieuzal and smoke	\$0.50 per pair extra
For Prescription AUTOGLAS, dark amber,	\$2.25 per pair extra
For Prescription AUTOGLAS, Smoke or Fieuzal,	\$4.50 per pair extra
For Plano Meniscus and Prescription Glasses other than regular sizes	\$1.00 per pair extra



Talks with the Practical Optician

What Constitutes a Centex Lens

(Continued from July Issue)

The glass from which lenses are made should be so hard that it will not easily scratch. Curvature of surfaces must be correctly calculated in order to give correct optical results. In order that these results shall be uniform the glass must not vary perceptibly in its refractive index. In fact, Centex standards are established which comply with the requisites demanded by modern conditions, and these standards are a matter of record. Frequent reference is made to these standards in order that Centex lenses shall run uniform.

Thus adherence to Centex standards guarantees lenses "scientifically calculated to secure the desired refractive power, produced from optical glass of great mechanical hardness, by methods ensuring correct curves and perfectly finished surfaces." The calculations required for correct optical results are very complex and when properly carried out ensure that AOC Co Centex lenses in all of the various forms, such as double convex and concave, periscopic convex and concave, meniscus convex and concave and the various forms of toric lenses, as well as flat cylinders and spherocylinders, may be substituted within reasonable limits for AOC Co trial lenses used in refracting.

AOC Co Trial Cases the Standard

AOC Co trial cases being the world's standard, it is of the utmost importance that lenses actually worn shall be calculated upon similar principles to the calculations used for the lenses in the trial cases. The principle involved in those calculations is that the concave lens in the AOC Co trial case shall be the standard; that its radii of curvature shall be calculated disregarding its thickness (this being negligible in concave trial case lenses) and that the convex lens shall be so calculated as to neutralize the concave of the same nominal power. To procure this result the position of the nodal points of the convex lens must be calculated and allowance made so it will neutralize the concave, this being the standard as stated.

The principle is well explained in the June AMOPTICO, the article in question being a reprint of a booklet written by Mr. Chas. F. Prentice at the request of the late G. W. Wells and published by the American Optical Company in 1899. The principle of neutralization as explained above has now been universally accepted, and all AOC Co Centex lenses

are calculated to conform to this standard. Thus by adhering to this standard the different forms of lenses of the same nominal power will interchange with each other within reasonable limits when placed in the same position on the face of the wearer, it being necessary, of course, that the different forms should all be set at the same distance from the eye to secure the same optical results.

Glass for Centex Lenses

The glass used in AOC Co Centex lenses is of great mechanical hardness. This is essential in order that the lenses shall not easily scratch. In fact AOC Co glass is so hard that complaint is sometimes made that it is difficult to cut even with a diamond. Strange as it may appear, this very property of extreme hardness makes it easy to grind, for it is free-cutting on the grindstone and does not clog the pores of the stone, as happens when grinding the softer glasses.

AOC Co glass is extremely uniform in refractive index. This is, as stated before, of great importance in order that uniformly correct power may be obtained. Any perceptible variation in the index of refraction would make the manufacture of AOC Co trial lenses exceedingly difficult.

The glass used in the manufacture of AOC Co Centex lenses is also very uniform in color. This is simply a matter of appearance, as it is obviously necessary to have the color run uniform; otherwise it would frequently happen that two lenses of different shades of color would be combined in one pair of glasses, to the dissatisfaction of the fastidious wearer.

In order that the greatest amount of light shall be transmitted the glass used in AOC Co Centex lenses is extremely white. Where it is necessary to absorb part of the light or to cut off rays from a given part of the spectrum, such for example, as the extreme violet, special glasses are used: smoke blue, amethyst, flouzal, etc.

The requirements in regard to center are very exacting in present ophthalmic lens practice and every effort is made to ensure that AOC Co Centex lenses shall conform to all reasonable requirements in this respect.

(Continued on Page 10)



NEW GOODS *for* LIVE DEALERS



New Hand Edging Machine for Bench Use

For those who do not have sufficient edging to warrant the installation of an automatic edger, the AOCo has developed this M81 hand edging machine.

It takes but a small amount of space, can be mounted on a bench without cutting the bench in any way, does its work quickly and in fact is the ideal hand edger for steady consistent service.

The stone is made especially for this work, and its composition has been determined upon only after many exhaustive experiments. It is 20 x 1½ inches. Each stone has a honing device, as illustrated, which always maintains it with a fair, smooth surface. Owing to its composition, it is exceedingly fast cutting.

The tub supplied with each grinder is the same as is used on the AOCo M72 automatic edger. In back of the stone the tub rises, and effectually prevents water from splattering, when the machine is running. This is an important point, especially for those who make their shop department somewhat

of a show room and endeavor to keep it in presentable shape for visitors.

You can order this machine of your regular jobber and be sure of getting a neat, business-like piece of machinery on which you can always rely.

Price, \$45.00.



The Leather That Won't Come Off

Our experimental department has once again justified its existence by devising a new and original method of sticking leather to the steel forms of AOCo cases. This new method is now used for covering all our self-closing cases and the leather simply refuses to come off. The only way it can be detached is to rip it off in small pieces, which actually splits the leather, leaving a thin skin attached to the steel surface. If you have ever tried to remove a good job of wall papering without water you know what we mean.

Cases covered with leather by the new method are guaranteed not to discolor, blister, mold, or deteriorate in any way. The method has had a thorough trying out. In fact, cases were even sent across to our London agents and back in order that we might determine how they would stand the dampness of two long sea voyages. When examined after being returned, they were found to be in as perfect condition as when sent.

Improvements such as these, the constant care which is taken in every manufacturing process, and the rigid inspection through which each AOCo case passes are the reasons why you will find them most satisfactory to use. When your next order goes to your jobber for cases, try those which bear the AOCo stamp. You will find them carefully and conscientiously constructed in every detail.



"Being a practical man in my profession and using many uncut lenses am in a position to notice where your make of uncuts excels. Also being rather observing and reading all advertisements pertaining to my business am surprised that you do not mention the superior points of your make lenses in advertising the same. In the first place AOCo's uncuts are easier to grind and less liable to chip or flake while edging. They are also much whiter than any other make and when completed make a much better and neater appearance. I certainly am well pleased with them."

W. D. OERTEL, Syracuse, N. Y.



AOCo Hand Edger
No. M81.

“Zylocrest Junior” Pads for Spectacle Bridges

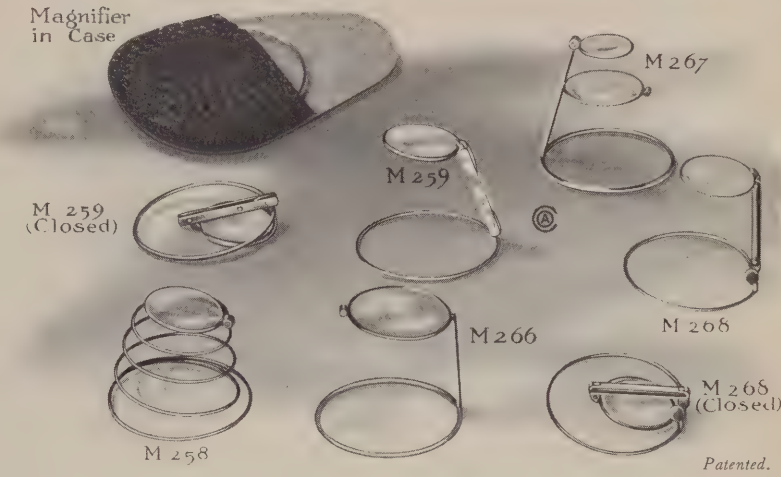
The success of AOCo Zylocrest Pads has been so marked that we have now added another form of pad to supplement the first. These we call Zylocrest Junior. They are made of transparent celluloid with small gold-filled metal attaching arms at each end, as illustrated here. The arms are bent over the bridge and hold the little pads snugged up underneath, as inconspicuous as can be.

With one of these Zylocrest Junior Pads attached, the man who is habitually complaining that his spectacles hurt will have to stop, for its broad bearing surface brings immediate relief.

Every wearer of spectacles is a possible candidate for a Zylocrest Pad when you tell him or her how much they add to comfort and how little they cost. They are made in three sizes: large, medium and small. You can fit them to any saddle bridge.

You can get them of your jobber for \$12.00 per ~~Gro.~~ Why not add them to your stock and give them a thorough trial?

Innovations in Eyeglass Magnifiers



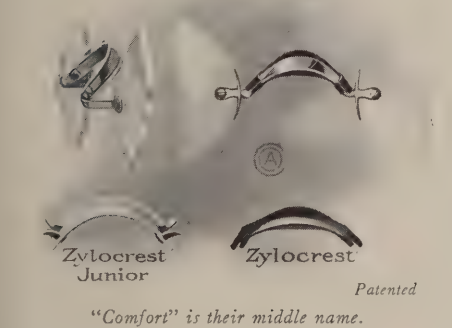
The AOCo Number M268 Eyeglass Magnifier has a new construction guaranteed to do away with “funny faces” when you try to fix it before your eye. It may not be as amusing to the children when they watch you use it, but it will be a vast improvement to yourself in comfort and ease of adjustment. The ring has a small finger catch attached, and the end of the wire, instead of being fixed, slides through a hole in the bottom of the post carrying the lens, so that by a slight pressure of the forefinger on the post and finger catch the wire loop is made smaller. It can then be inserted easily in position, and when the pressure of your fingers is removed the wire loop springs back again, fixing the magnifier firmly in place. We tried the idea on Carney, the jolly foreman of our large lens inspection department at “Lensdale” and he declared it was the “best ever.” You, too, will find it one of the neatest, most comfortable little magnifiers ever made. It is made in folding style and is sold with a black leather case.

The double-decker, Number M267, has just twice the magnifying power of the others, giving it a decided advantage where great magnification is necessary. Supplied with the usual 20 D lenses, the focal distance is too short to permit very much work with a tool, so the smaller lens is made to be swung backward out of the way, leaving only one 20 D lens, with a focal distance of two inches which will permit manipulation with tools.

Numbers M258 and M259 are respectively folding and collapsible styles. Each is provided with a special leather case and may be conveniently carried in the pocket if desired.

Number M266 is a simple non-folding style such as is always useful about the store.

These magnifiers are made of nicked steel, and may be had of your jobber with either 16 D or 20 D lenses as desired.



“The last time I wrote you I said that I had used the ——— mount exclusively. For six months I have been investigating different mountings and have decided that, for my work the Ovalex Fits-U is superior to all others. I wear them myself with the greatest comfort and am prescribing eyeglasses with almost the same assurance as spectacles.”
H. W. BONNEY, Pres.
Utica Optometric Society



AOCO Zyloware Motor Glasses Should Interest You

There is a pleasure in the unknown. That is why it is so fascinating to dig for buried treasure, while digging for potatoes is such back-breaking labor. In one case you know you will not find the treasure; in the other you are sure of finding some potatoes.

Perhaps you have not yet had the pleasure of adding AOCO Zyloware Motor Glasses to your lines. You may feel a little doubtful as to the reception such glasses would have among your own customers. All we can say is that the progressive optometrists and opticians who are displaying and advertising AOCO zyloware goods are having splendid success with them. They are a fad, if you choose, but a fad which has behind it a definite reason for existence: the added comfort of those who wear them.

AOCO Zyloware Motor Glasses are the perfection of this type of goods. All have a superior finish, a correctness of style and size that cannot be duplicated. The weight of Zyloware frames has been worked out to a nicety. They are "just right"—neither too heavy nor too light. You will find in these goods every essential for the comfort and satisfaction of the wearer.

Start your order for AOCO Zyloware Motor Glasses along to your jobber at once.

Don't wait for your ship to come in. Swim out and meet it.

Half-Riding Temples; eye size 45 mm. round, set with Mi-Coquille Amber Lenses. Bridges made in two sizes. 65 and 68 mm. P. D.

CAT. NO.	COLOR	ROUND EYE		DROP EYE	
		TRADE PRICE PER DOZEN		TRADE PRICE PER DOZEN	
R317	Dark Shell	\$12.00		\$13.00	
R337	Amber	12.00		13.00	
R347	Light Shell	15.00		16.00	
R357	Crystal	14.00		15.00	



Eye size 55 mm. Round, set with Mi-Coquille Amber Lenses. Bridges made in two sizes. 75 and 78 mm. P. D.

CAT. NO.	COLOR	ROUND EYE		DROP EYE	
		TRADE PRICE PER DOZEN		TRADE PRICE PER DOZEN	
R617	Dark Shell	\$15.00		\$16.00	
R637	Amber	15.00		16.00	
R647	Light Shell	18.00		19.00	
R657	Crystal	17.00		18.00	



What Constitutes a Centex Lens (Continued from Page 7)

Thickness of Vital Importance

Thickness is another factor of vital importance, especially where lenses are of extra large size and are to be worn in fingerpiece mountings. The matter of correct thickness is particularly perplexing owing to the great difference of opinion existing as to what it should be. However, the tendency is almost universally towards the use of thin lenses, and AOCO Centex will be found to be particularly satisfactory in this respect.

The fact that our enormous lens plant, the largest in the world, is kept continuously running, frequently both day and night, and is turning out every year hundreds upon hundreds of thousands of dozens of Centex lenses, is ample proof that the American Optical Company is keeping a sharp lookout for modern ophthalmic requirements, and is placing upon the market a product eminently suited to the needs of oculists, optometrists, opticians and, last but not least, the final consumer, the wearer.



Ameoptico

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Reg. in U. S. Pat. Off.

Vol. III August, 1914 No. 5

Published Monthly by

American Optical Company
1833-1914

Channing M. Wells President Albert B. Wells Treasurer

J. Cheney Wells
Vice-President and Secretary

General Offices and Works

Southbridge, Massachusetts, U. S. A.



New York . . . 15 Maiden Lane
Chicago . . . 122 S. Michigan Boulevard
San Francisco . . . 140 Geary Street
European Agency,

American Optical Company, Limited
39 Hatton Garden, London, E C

Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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FOR thirty-five years Patrick O'Connor served in the dual capacity of driver and conductor on one of the quaint little horse cars that still linger on some of the cross streets of lower New York. Patrick's route was on Chambers Street, where traffic was never heavy, and for many years his daily receipts seldom varied more than a few nickels above or below three dollars.

One fine day Patrick was retired on a pension and a green man, Ike Levinsky by name, was given the same old horse car and the same old route.

The first day Levinsky's receipts were \$3.25.

The second day he turned in \$6.85.

The third day he turned in \$14.90.

The fourth day he turned in \$19.20.

The superintendent had been watching the daily report sheet with growing amazement.

"For the love of Mike!" he exclaimed when he saw the \$19.20 figure, "Send Levinsky here."

With a sheepish grin, standing first on one foot and then on the other, Levinsky appeared before the superintendent.

"On dot Chambers Street few mans rides," he explained apologetically, "So when beezness gets dull I takes dot car over on Broadway."

Levinsky had the right idea. If he stays in the street car business he'll end by owning the railway.

The way to get business is to go after it. It won't come to you. You may say that an optical store isn't as easy to move about as a street car. Don't you believe it. You can move your store all over the map, until every woman and child in town knows your store and sees your goods—sees them right in their own home, in the street cars, at the theatre, at the movies.

There's no secret of success in modern business—unless it's advertising, and then it can't very well be called a secret because it is all out in the bright light of day. But you must remember that real advertising means a great deal more than an occasional formal notice in the newspapers. It means live, interesting "copy," frequently changed. It means attractive street car cards, lantern slides at the movies, circularizing your customers—and, last but very far from least, it means—attractive window displays and intelligent use of advertising helps.

Some optical goods are bought—more are sold. And the man whose business is increasing is usually the man who is *selling* his goods.

He takes his business car "over on Broadway."

Sales versus Customers

The editor was standing in an optometrist's store not long ago when a lady came in to make a small purchase. The optometrist, with whom the editor had been talking, excused himself and walked forward to wait on her. A moment later as the article for which she had asked was being wrapped up, the voice of the optometrist became audible, asking the lady in a very gracious manner for her name and address. After she had left, the information, gladly given, was noted down carefully on an index card. The proprietor had not merely made a sale. He had paved the way for securing a permanent customer by taking a little thought. Now whenever notices of particular goods or sales are sent to that man's mailing list, the lady will be among the number and her pleasant visit to the optometrist's store will be recalled. It is safe to say that other sales will be the result of this first visit.



Advertisements As Is!

As a further example of what not to do in advertising, we are copying an ad which was recently sent us by an optometrist who appreciated its funny side. Just what an "optomorphist" may be we are not quite certain, but judging from the advertisement he must be quite a remarkable person:

"Cheer up, when our Lord said, let there be light, there was light, so 'tis with the eye sight specialist, or optomorphist, when he has discovered your weakness and readily applies the remedy and gives you comfort and enables you to do all your work and pleasures with good sight. My prices shall be reasonable to all. Come and see me if you have any ailing whatsoever, cross eyes, squint eyes, stye's or granulated eyes, all ailings can now be improved and cured by our improved method, headaches, pain in back of neck or top of head. Come and see me and I will give you relief unless your beyond help. Hope to be ready by August 29."



Dealers are Harnessing this Emblem

All over the country now, optometrists and opticians are hitching their business wagons to the emblem of the Rice Leaders of the World Association. We are receiving letters constantly from the Association headquarters at 358 5th Avenue, New York City, announcing that Mr. So and So or the Such and Such Company has written in for an Association banner in order to prepare a window display that shall be eligible to compete for the cash prizes (amounting to \$15,000), which are being offered to those who originate the most attractive displays of products made by members of the Association.

We want every optometrist and optician who has a show window to get behind this contest and b-o-o-s-t. The conditions of the contest have been outlined in previous issues of this magazine, but we review some of them briefly here that you may have them freshly in mind. Complete rules will be sent with your banner.

All window displays of AOCo goods must, to be eligible, have a Rice Leaders of the World Association banner displayed prominently. Write for this banner to the Association at 358 5th Avenue, New York City. It will be sent to you immediately, free of charge.

All window trims must remain on display for at least one week.

Photographs of the display, preferably about 6" x 8", must be mailed to the Window Dressing Department of the Association headquarters.



You are not limited to one attempt, by any means. It is a case of "the more the merrier." Each display you arrange will help just so much in designing the next.

Harness up the Rice Association emblem with a display

of AOCo goods.

Make it work for you. There is practically no expense necessary to make use of it and it cannot fail to give your business added prestige. Write in for the banner today.

Don't forget the Idea Letter Contest

While this countrywide window dressing contest is on, don't forget that there is another: the great Idea Letter Contest open to everybody. Prizes aggregating \$10,000 will be awarded for the best letter or letters which suggest new business building ideas or ways for utilizing the products of members of the Leaders of the World Association. The announcements of this contest in

BY INVITATION
MEMBER OF



national magazines, which are read in your own town, will naturally tend to create added enthusiasm for the Association and its ideals. Those who become interested in optical goods with a view to writing an Idea Letter about them will seek out the man who is connected in their minds with the Emblem—who handles AOCo goods. You should be that man.

Reap the benefit of the enthusiasm for the Rice Leaders of the World Association by identifying yourself with it. There is an enlarged business field and increased sales waiting for you when you do.



"I am pleased to acknowledge the receipt, by American Express prepaid, of your catalogue. Since I received it some two weeks ago I have spent many hours after business and at odd times during business hours familiarizing myself somewhat with its contents. It is certainly a carefully compiled work of its kind extant. It is to the optometrist and optician what Webster's Unabridged Dictionary is to the English language."

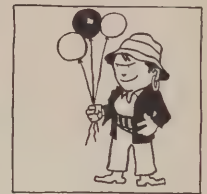
E. E. HILBRON, Chicago, Ill.



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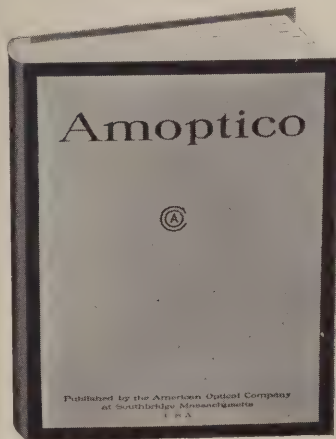


THIS MONTH'S SELLING HELPS



New and Attractive Binders for AMOPTICO

Why not start a file of your AMOPTICOS as they come to you each month? With their business-building ideas, their easily-accessible information on new goods, their selling pointers on staple lines, you could build up a helpful little optical reference work that would be very much worth while. Information is only valuable when it is available. The things you once knew but have forgotten, don't make the cash register bell go "ding." It's what you know *now* that puts the proper balance in your sales ledger. And a file of AMOPTICOS, kept always conveniently near, will be just so much added to your store of available information.



We have prepared a handsome binder, with heavy gray board covers, printed in red and bound in red, that will enable you to file your AMOPTICOS neatly and conveniently. It is large enough to contain the issues for a full year. One of these will be sent you prepaid for 30 cents. As we have only a limited supply, it will be well to send in your requests at once.

Making the Business Card Work

An optician in a large California town is using a business card printed on a good quality heavy linen paper stock. On one side appears his name, address, and title. On the reverse side appear the words "The Care of Spectacles," followed by this advice: "The whole success or usefulness of a pair of spectacles or eyeglasses depends upon their proper position in front of the eye. If they are bent out of their right position, or otherwise misplaced, they become there-

by worse than useless. Despite all care, frames will get out of adjustment, and we invite all wearers of spectacles and eyeglasses to call upon us at least once a month, that we may refit them and see that they are in proper order. For this we make no charge."

By using the reverse side of his business card in this way the optician is able to get real advertising value for practically no cost. And the care with which the card is arranged and printed prevents it from seeming "cheap" or undignified.



Here's Enterprise for You

We've seen several kinds of street car advertising in our time, but here's a new one. This "electric" is certainly unique, and the manner in which it has been utilized for advertising purposes is worthy of comment.



And by the way, you know we have a fine variety of full-fledged street car advertising signs which we hold at the disposal of users of AOCo goods. If you are now advertising by this method, ask us to imprint some of our Car signs with your name and address. This will save you expense, trouble, and give you a sign designed by high-salaried artists who know the business from A to Z. It's worth trying.



When You Write That Circular

From far-off (to us, at least) Australia comes a carefully written circular entitled "The Eye." It starts with general remarks on progress, leads us briefly through the history of the optical industry, explains the necessity for giving proper attention to the eyes and finally urges the special qualifications of the writer as a man capable of giving the best optical service in that section of the country.

The use of circulars is without doubt one of the best forms of advertising for optometrists and opticians. But their efficiency depends directly on the care with which the arguments on which the circular is based are presented. In the present case it seems to us that all the space given to a talk on the world's progress might just as well have been omitted entirely. It would apply equally well to almost any kind of product, nor would anyone, after reading it, be any the wiser on the subject of "The Eye," about which the circular is written. Yet the space devoted to this is almost one-fourth of the whole.

When you write that next circular of yours, avoid generalities. The man who sticks to the subject is the one who gets the best returns.

It is well to remember, too, that the general public is not familiar with optical terms. Avoid them as much as possible. In the circular mentioned above occurs the phrase: "refractive qualities of the eye are by no means the only cause of bad vision." How many of your customers know what the "refractive qualities of the eye" are?

Grand PRIZE Contest



FIRST PRIZE, \$10.00

SECOND PRIZE

A large framed picture of the AOC Co Factory

We want to find out how oculists, optometrists, and opticians are using form letters. We want to learn what kind of form letters are the best business boosters. So we are starting a short prize contest, open to all, and offering prizes as follows:

1. To the person who sends us samples of the best form letter (or letters) advertising AOC Co goods, which he has circulated in the past, and who accompanies these samples with the best letter explaining exactly how and under what conditions they were used, as well as the results obtained, we will send a crisp new \$10.00 bill.

2. To the person who sends us samples of the next best form letter (or letters) together with a description of their use and the results obtained, we will send a large framed picture of the AOC Co factory.

All letters must be mailed to us on or before September 5th, 1914.

Your description of how the form letters were used and the results obtained must not be over 200 words long.

The form letters you enclose must actually have been used.

Be as accurate and definite in every statement as you can.

We expect to publish in AMOPTICO whatever letters may seem suitable for our use.

All letters should be addressed to

CONTEST EDITOR,

AMERICAN OPTICAL CO.

SOUTHBRIDGE, MASS.



Important Announcement

In the November issues of a large number of the largest magazines, the American Optical Company will begin a national advertising campaign which for originality and selling power has never been equalled. Complete plans will be announced in the September AMOPTICO. Read them carefully.



Ameoptico

A Complete Advertising Campaign to Increase Your Business Among Parents of School Children



What the
circulars look
like



NEXT month begins the annual march to school. The holidays will be over. Out will come books and pencils once more. The boys and girls will all be dressed in their best, their faces scrubbed till they look almost like a Spotless Town advertisement.

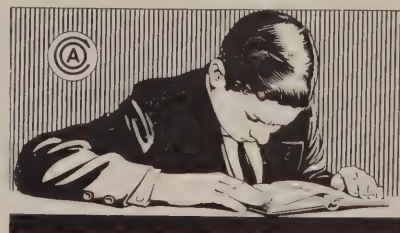
But 25 per cent of the children who will go trooping past your shop have defective eyes. Think of it! One in every four will be handicapped by a defect which, in a large majority of cases at least, could be easily remedied by an oculist or optometrist!

There is work for you there, an opportunity which is not receiving anything like the amount of attention it deserves. The parents of those children should be told fully of the dangers which unremedied defects of eyesight bring. They should be made to understand the necessity for a careful examination of their children's eyes.

How to do this is the question. The AOCo has gone into the matter deeply and has laid out a complete advertising campaign, the material for which and instructions as to its use can now be purchased at a merely nominal cost.

These materials consist first of a most original window display consisting of a series of seven cards designed and printed to imitate old-fashioned school slates. On two of these appear cut-outs of a boy, one bent over a book to show that he needs glasses, the other seated in the proper manner, fitted with AOCo spectacles. These cards, all arranged with easel backs, are printed in three colors to represent the natural tones of a slate, and are full slate size, 8" x 11". The possibilities for the use of these in your window are almost infinite. The photograph at the top of this page is one suggestion as to how they may be used. Others will doubtless occur to you that would be especially appropriate for your own window.

We sell these sets of cards for \$1.50, which represents merely the cost to us of preparing them. If



AOCo Electro No. A 30



you were to attempt to duplicate them yourself the cost would run very nearly into the hundreds of dollars.

Circulars: With every window display set we will send a free supply of 250 beautifully designed and printed circulars all imprinted with your name and address as you desire. These circulars contain a carefully written little story on children's eyes and point out the necessity for examinations. They are printed in two colors on a nice grade of coated stock.



AOCO Electro No. A31

Used in conjunction with the window display they will prove a splendid form of advertising at practically no cost to you. Additional quantities of these circulars, imprinted with your name and address, will be supplied below actual cost at the rate of \$1.50 per thousand.

Newspaper Electrotypes: just to enable you to make your campaign complete we can supply you with two specially prepared electrotypes for your newspaper advertising. One of these shows a boy with defective eyesight trying to read without

glasses. In fact it is the same boy that appears on the window display and in the circulars, adapted to newspaper use. The other electro is a view of the same boy fitted with the needed spectacles. With each of these electrotypes we send a sheet containing six changes of carefully written copy, so that you may run either of the electros a full week without repeating the same copy. These are included with the window display and circulars, if you can use them. State definitely if you want them.

This is one of the most complete and carefully planned advertising campaigns ever prepared for the use of optometrists and opticians. Nothing like it has ever been done before. And you can buy it for a ridiculously low price as explained above. You can get either the display, the circulars, or the electros separately if you wish, but we advise the use of the complete campaign in order that it may be as effective as possible.

Send in your requests for this complete outfit to your jobber at once. There will be a big demand for them, and while we have prepared hundreds of sets, we expect that there will hardly be enough to go around. And remember that it takes some little time to imprint the circulars under the best of circumstances. You should have these in the hands of the parents of school children when the schools open, *so do not delay.*



Look to Your Letterheads: It Pays

The value of a striking letterhead as a form of advertising is recognized by practically all large concerns of standing. The designs used, the colors selected are always given the most careful attention.

An editorial in "Printers' Ink," the well known advertising weekly, says: "Look to your stationery. See that it possesses the full measure of advertising value."

Here is a splendid way to get full value from your letterhead. Send to your jobber for electrotypes from which you may print on your stationery the handsome, distinctive design shown here in reduced size. An electrotype from which the design may be printed in one color can be obtained for 75 cents. If you can print in two colors, the two electrotypes necessary may be obtained for \$1.50.

Money spent on good stationery is a worth-while

investment. You are largely judged by the appearance of your letters, and when you use a cheap grade of paper, your customers have a right to decide that the goods you sell are apt to be cheap as well.

Our Dealer Help Service Department is constantly

A. VERY WISEMAN, OPTOMETRIST	
We Fit genuine American Optical Company Spectacles and Eyeglasses	
ACCURATE OPTICAL WORK 	
SCIENTIFIC EYE EXAMINATION 	
37 Business Street	Eyeglassville

receiving letters written by optometrists and opticians which are far from reflecting credit on the writer. We know that there is a big opportunity for improvement in this respect and we commend the thought of better stationery to you as one which should be given careful consideration.



Grind Toric and Cylinder Lenses on Your Own AOCo Surfacing Machine

It is not necessary to buy an elaborate special machine to do your grinding of Toric and Cylinder surfaces. The AOCo has a special device, No. M30 Patented Cylinder and Toric Attachment, we call it, which will enable you to grind these difficult forms easily, speedily and cheaply. The device can be attached instantly to any AOCo surface grinding machine, and is extremely simple to operate.

With each Toric attachment come three cast-iron blanks: plano, convex and concave. The lens to be ground is cemented to one of these, just as in ordinary surface work. Then the attachment is slipped over the spindle of the surfacing machine. The blank has two arms which extend between the guiding posts, and when the blank is placed in position, these guiding posts assure the axis of the lens being accurately located.

As you begin your grinding the attachment revolves and the guiding posts rock back and forth, imparting a circular motion to the blank which produces a perfectly smooth, even surface. These guiding posts are made of tempered steel and will stand heavy wear. After long use they may be turned about to present a fresh, unworn surface.

The M30 Toric and Cylinder Attachment should appeal to you; first, because it does Toric and Cylinder surfacing rapidly, efficiently, and cheaply; secondly, because it can be attached to any AOCo surface grinding machine; thirdly, because it costs only \$18.75 net, hardly more than one-tenth the cost of the complicated automatic machines now being used. Furthermore it does not utilize a lot of valuable floor and bench space.

If you do surface grinding in your shop order an M31 machine from your jobber. It is a good investment.

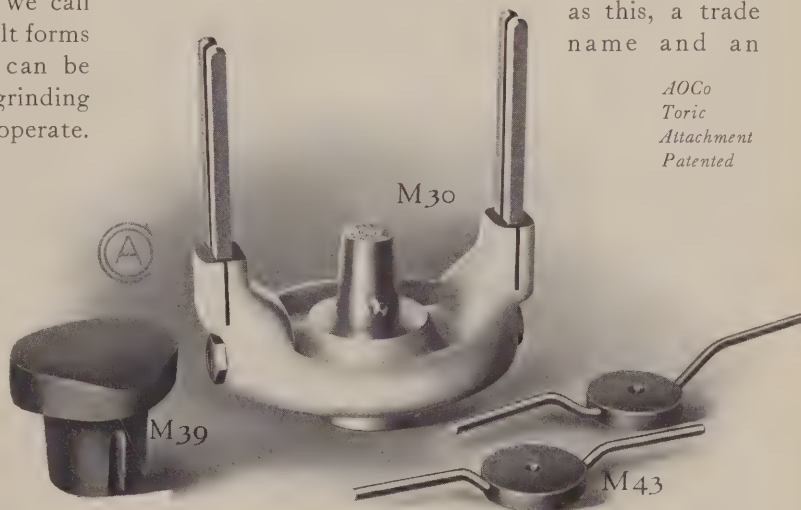
Speedwell Motor Glasses with Larger Eyes

Speedwell Motor Glasses are now being regularly made with a 47 mm. eye, in response to a call for a slightly larger eye than the 44 mm. which they have previously had. This change is undoubtedly in the right direction and will make for a better balanced, more efficient glass than ever.

Sales of these motor glasses are running into large figures all over the country. This is due primarily to the correctness of their design, their splendid finish and honest workmanship; secondly to their trade name, "Speedwell," and the pleasing manner in which they come packed in the AOCo No. 377 Japtol Case. The old query as to "What's in a name?" does very well in certain things, but for an article such

as this, a trade name and an

AOCo
Toric
Attachment
Patented



attractive form of presenting it to your customers mean much.

Your jobber has Speedwell Motor Glasses and can sell them as follows:

CAT. NO.	DESCRIPTION	TRADE PRICE PER DOZEN
3348 B. E.	Speedwell Motor Glasses with Amber Lenses, in a Special Black Enamel Self-Closing Case	\$12.25

Advertising "Waste"

We received a letter from a man the other day who informed us that the AOCo national advertising was "no good." He added that he also thought such colored advertisements as were used by Colgate, Williams, Kellogg, etc., on the back covers of magazines were a waste of money, not realizing that the facility with which he quoted the list of big national advertisers was a direct refutation of his own argument. The first names he thought of were those of the companies who do the most advertising, and the chances are that when he buys his goods he will buy those of the companies whose advertising he thought was worthless. That is not our idea of wasted money. Of course you know that the AOCo has helped you, and will continue to help you this coming year sell AOCo goods, through national advertising. This help is one of the advantages you buy with every purchase of AOCo eyeglasses or spectacles. And it is very much worth while.



"The Best Bifocal in the World" says a Boston Optometrist

"Enclosed please find imprint for the Uni-Bifo circular, which we will try to use to advantage, sending only to customers whom we think would appreciate the best bifocal the world has ever produced."

That is a part of a letter recently written to us by Mr. George A. Barron, a Boston optometrist. Mr. Barron has the right idea. He has tried out the Uni-Bifo lens thoroughly, found out the satisfaction it gives and is now pushing for bigger sales with it. He also recognizes that not everyone will be interested in Uni-Bifo Onepiece Lenses, for they are too expensive for all to buy. But there is a certain class of customers to whom "the world's best" holds an appeal that will strike through to the pocketbook every time.

You certainly have a number of customers who belong to the class which thinks enough of the value of eyesight to give it the best possible treatment. That class is your selling field for AOCO Uni-Bifo Onepiece Lenses.

Get out and dig for the business that is yours for the digging. See the possibilities for larger sales, the splendid class of customers, the bigger profits which sales of these lenses make.

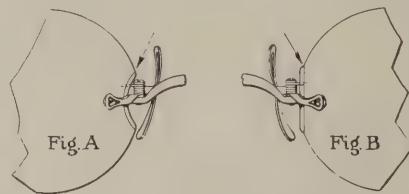
As to ordering them: they are being sold by jobbers who hold finishing licenses. From them you may obtain the lenses you wish. You have the opportunity to choose either a 19 mm. round reading

segment or a 30 x 15 mm. half-round segment. All lenses are made in toric form only.

Send your prescription to any jobber who holds a finishing license, and specify definitely and decisively that you want AOCO Uni-Bifo Onepiece Lenses.

An Idea for Opticians

The illustrations given here show two ways by which a short P. D. may be very easily secured.



Those of you who have grinding outfits can use these methods sometimes to advantage. Simply grind a flat place on the edge of the lens where the strap is to be fitted, and straighten the strap until it fits snugly. Then bore a hole for the screw at the proper distance in from the edge. This not only enables you to use larger lenses than could otherwise be done, but it also makes them unusually secure, since the flat strap prevents any rocking of the lenses up and down.

If you have a Perfection Bifocal grinder, you can go still further and grind the lens until the strap fits in with a convex curve. This accomplishes the same result and gives a shorter P. D. than may be obtained by the other method.

Improved Polishing and Buffing Head

No. M131



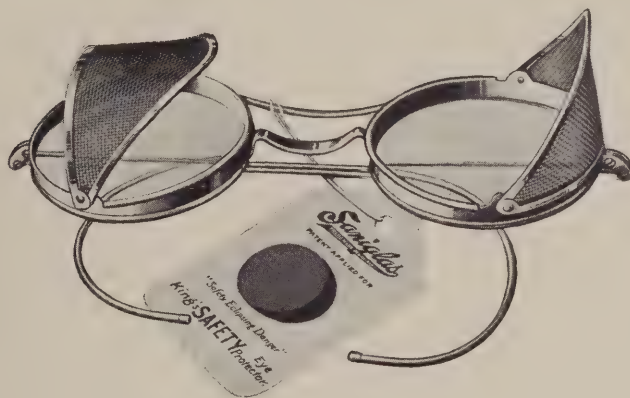
A carefully designed well-made machine that will do your polishing and buffing rapidly, cleanly and effectively. The pulley on the spindle shaft is enclosed within casting so that there is no danger of work becoming entangled with belt.

The right end is recessed to receive the AOCO No. M162 glass-screw finishing tool.

Price for AOCO No. M131 machine, . . . \$7.50

SAFETY FIRST

Saniglas Protection Spectacles



WITH the countrywide spread of the Safety First movement has come a demand for safety appliances such as has never been equalled. Not only are individual workmen seeking to preserve their working efficiency by means of protection devices, but large industrial companies are spending huge sums of money to prevent accidents in their factories and shops.

Eye injuries form an appalling percentage of the total number of injuries received. In the Pullman Company shops at Pullman, Ill., last year 35% of all accidents were eye accidents. In the shops of a large Automobile Company last year they were 75%.

Practically all of these accidents could have been prevented had each workman worn a Saniglas Protection Spectacle.

There are wonderful opportunities for the sale of the Saniglas Protection Spectacle, especially for optometrists and opticians located in or near manufacturing plants. The selling field is open to you.

The Saniglas Protection Spectacle is designed especially to provide the most perfect protection for the eye that it is possible to obtain. Time and again it has proved its superiority in hard series of tests. It has been adopted by many of the largest corporations in the country as the surest means of preventing accidents. You will make no mistake when you specify it to your jobber.

Made in white metal $1\frac{7}{8}$ in. eye. Six bridge sizes available. No leather parts to get dirty and prevent air circulation. The whole goggle may be sterilized in boiling water. Lenses made of a special tough glass, so that in case of accident chips always fly away from the eye.

Saniglas Protection Spectacles

No. 3019, with screen, comfort cable temples and cross bar

Price per dozen

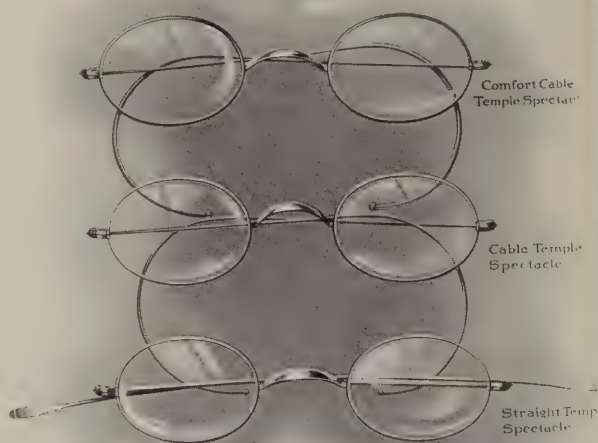
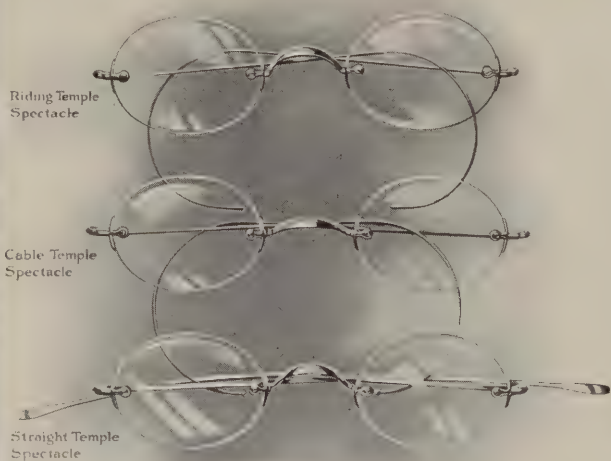
\$11.00



AMERICAN OPTICAL COMPANY

SOUTHBRIDGE

MASSACHUSETTS



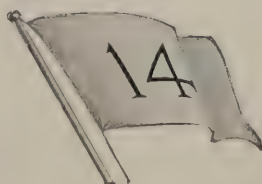
“FOLLOW THE FLAG” OF CERTAIN QUALITY

AOCO Amoptico Line 14K Gold-Filled Spectacles

AOCO “Amoptico” patented spectacles are made for the man who is in the optical business to stay; whose success depends on the permanent friendship and patronage of his every customer. To such a man we guarantee these goods with the assurance that business will not be lost through faults that may develop in either quality, finish, or design. They are the best gold-filled spectacles made by the largest manufacturer of spectacles in the world.

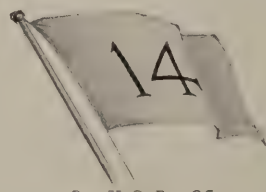
The AOCO name has for over 80 years been synonymous with honest quality. When you purchase “Amoptico” spectacles you purchase with them the perfect assurance of quality that only such a record can give.

You may experiment with other goods. You may like them for awhile; but the spectacles that are always found giving entire satisfaction after years of service are those which bear the AOCO “Flag Line” trade mark stamp. “Amoptico Flag Line” goods should be your stock-in-trade. Order them of your jobber.



Reg. U. S. Pat. Off.

Look for the flag and the AOCO trade mark on the bridge of each pair when they arrive. They are your guarantee of unquestionable quality.



Reg. U. S. Pat. Off.

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. 3

September, 1914

No. VI



"I would strongly recommend the Fitts-U Eyeglass, madam.

It is certainly the most becoming and also the easiest to adjust correctly. You scarcely notice the pressure, yet the lenses are always held firmly in the right position. We have found the Fitts-U by far the most satisfactory finger-piece mounting. It gives the security of spectacles with an infinitely more becoming effect."

Ask *your* oculist, optometrist or optician — he knows.

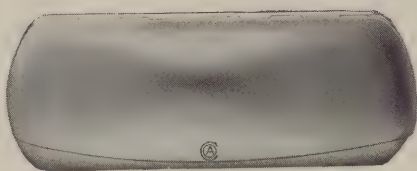
AMERICAN OPTICAL CO.
Southbridge, Mass.



Look for this Ad in the
November Magazines

What is Your Verdict on these Cases?

Mr. Optometrist—Optician, four cases are before you to be decided upon. The Manufacturing Court has pronounced strongly in their favor; in fact, says they have more good points than any others of a similar nature. The Court of Increased Sales has said that popular favor is with them. As the Court of Last Appeal, what is YOUR verdict Mr. Optometrist—Optician?



AOCO Polished Aluminum Case No. 328 P.A.

Strongly made, self-closing aluminum case, lined with good quality gray silk velvet. All edges are very carefully smoothed and buffed. A light, attractive case anyone will be proud to carry. Your jobber sells as follows:

Cat. No.	Description	Per Dozen
No. 328 P.A.	Spectacle size	\$3.50
No. 706 P.A.	Small Fingerpiece size	3.25
No. 708 P.A.	Eyeglass size	3.25
No. 716 P.A.	Large Fingerpiece size	3.25



AOCO Polished Aluminum Case No. 328 P.A.2

A handsome design on the cover of this case adds just the desired touch of distinction without being too ornate. Self closing like the others, and solidly made throughout. Cases such as these make delighted customers. Your jobber sells them:

Cat. No.	Description	Per Dozen
No. 328 P.A.2	Spectacle size	\$3.50
No. 706 P.A.2	Small Fingerpiece size	3.25
No. 708 P.A.2	Eyeglass size	3.25
No. 716 P.A.2	Large Fingerpiece size	3.25



AOCO Polished Aluminum Case No. 328 P.A.1

A beautifully designed specimen of the case-maker's art. Made in No. 328 spectacle and No. 708 eyeglass size, oxidized either in red, green, blue or black. Silk velvet lining colored to match. Put them in your window with one of our special display signs, sent on request. From your jobber as follows:

Cat. No.	Color	Per Dozen
No. 328 P.A.1	Without oxidization	\$4.25
No. 328 P.A.1 ox.	Oxidized black	4.50
No. 328 P.A.1 ox. 1	Red; ox. 3, green; ox. 4, blue,	4.50
No. 708 P.A.1	Without oxidization	4.00
No. 708 P.A.1 ox.	In any of above colors	4.25



AOCO Polished Aluminum Case No. 328 P.A.3

The classical design on this case adds dignity and beauty to its handsome shape. You will make no mistake in selling them. Spectacle sizes only. Ask your jobber:

Cat. No.	Color	Per Dozen
No. 328 P.A.3	Plain	\$3.50
No. 328 P.A.3 ox.	Oxidized black	4.25
No. 328 P.A.3 ox. 1	" red	4.25
No. 328 P.A.3 ox. 3	" green	4.25
No. 328 P.A.3 ox. 4	" blue	4.25

Try Them and See. Sales Talk Louder than Claims

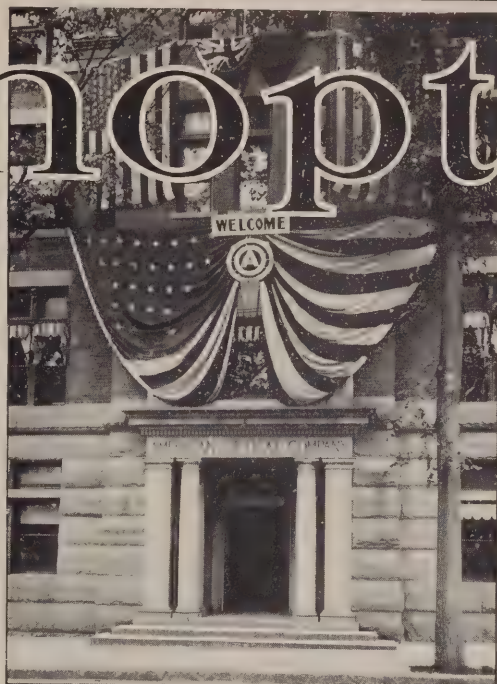
American Optical

THE second annual Sales Conference of the AOC has passed, and it is with a feeling of the greatest pride and satisfaction that we now look back upon it; for it was one splendid success from start to finish, a week full of enthusiasm, of enjoyment, and of hard, willing work. Everybody labored loyally to carry the carefully laid plans through to a successful conclusion. It just had to be a success.

We wish our many friends all over the country who now know us merely by a tiny AOC monogram stamped on eyeglasses or spectacles might have been together with us in the big convention room and listened to the inspiring talks and words of cheerful forecasting that formed the keynote of the whole convention. It would have united us all together in stronger bonds than ever, and we would have worked together this coming year with a sense of sympathy that would have gone far toward the uplifting and further advancement of the optical business.

A goodly number of our "outside" men came to us, from all parts of the country. You probably know some of them yourself: Payne, from our office across the Continent in San Francisco; Kriessl of Chicago; Bohling of New York; and Moseley from far-away England. They were given a royal reception, for some had not had the opportunity to get back to the home office for a long time, and their many friends were glad to see them.

The convention was formally opened at 8.30 Monday morning, August 3rd. Channing M. Wells, President, made a splendid welcoming speech, putting into well-chosen words the pleasure that we of the home office felt in being able to have the branch office salesmen

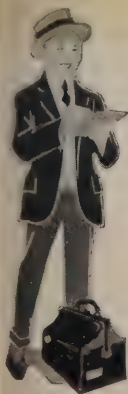


Inspiring Business Outlook Forecasted at Second Annual AOC Sales Conference

with us. He was followed by Albert B. Wells, Treasurer, who gave a vigorous talk on the business outlook which lies ahead of us, in so far as could be determined during the unsettled conditions in Europe. J. C. Wells, Vice-President and Secretary, then gave us a fine logical exposition of the manufacturing outlook for the coming year.

It is impossible for us to tell of the entire program: how the branch office managers came forward with encouraging reports of conditions in their respective territories, telling with what enthusiasm the

Fits-U Luxe eyeglass has been received and the phenomenal success it has won in the short time since it was introduced; how the foremen told of the manufacturing shortcuts that are turning out better goods; how the advertising plans were unfolded by our advertising manager, O. B. Carson, and an explanation made as to how the new plans would cooperate with every dealer who sold AOC goods, helping him to increase sales. We can merely say that the program was an inspiration from start to finish, and everyone who had the privilege of being present as it progressed benefited richly by it. We leave the conference with renewed enthusiasm, with heightened belief in the superiority of AOC goods, and a determination to make this coming year the best and most uplifting to everyone who comes in contact with us and the American Optical Company.



Our Three Branch Managers: Payne, Kriessl, Bohling



A PART OF THE AOC_o "FAMILY"

The late Joe Jefferson once made a curtain speech in which he said: "When I see so many friendly faces in the audience I wish I could shake hands with each one." He was later asked how to shake hands with a face. However it may be done, here are a good many faces we hope you will be able to "shake hands" with some day.

TOP ROW. O. B. Carson, advertising dept., F. H. Pike, advertising dept., M. F. Judd, advertising dept., R. Murray, advertising dept., C. G. Hilton, foreign dept.

SECOND ROW. J. W. Payne, San Francisco office, F. N. Kreissl, Chicago office, J. P. Petherick, AOC_o Ltd., London, J. H. Bohling, New York office, W. H. Hurlburt, sales dept.

THIRD ROW. A. Moseley, AOC_o Ltd., London, C. A. Partenheimer, Chicago office, R. Schadla, AOC_o Ltd., London, L. W. Bugbee, sales dept., F. Kropff, New York office.

LAST ROW. D. S. Woodward, New York office, H. C. Schumaker, San Francisco office, F. W. Starratt, San Francisco office, A. C. Witt, Chicago office, R. S. Turner, Chicago office.



A PART OF THE AOC_o "FAMILY"

TOP Row. A. C. Smalley, sales dept., H. J. Brackett, sales dept., J. E. Eaton, sales dept., F. G. Blanchard, sales dept., C. F. Hill, sales dept.

SECOND Row. D. H. Clarke, sales dept., P. H. Herbert, sales dept., R. L. Gordon, optical machinery dept., B. H. Chamberlain, sales dept., F. M. Shields, sales dept.

THIRD Row. J. E. Heffner, unfilled order dept., H. C. Munroe, claims dept., W. W. Crawford, accounting dept., C. F. Williams, billing dept., S. W. Cady, order dept.

LAST Row. E. S. Boyden, order dept., H. Lafin, order dept., H. Estabrook, sales dept., R. B. Freeman, order dept., P. J. Dempsey, traffic dept.



Decorations for the AOC Co Administration Building

We didn't put a "welcome" sign on the door mat, but we put one over the door, where it was even more prominent, and where no one (so far as we know), could walk over it.

And we decorated the front of the building until it looked like the 4th of July; all this merely to give a little outside evidence that things out-of-the-ordinary were taking place, and that we were glad to have them happening, too. Convention hall, where our meetings were held, was also given a new dress of flags and bunting. Numerous exhibits were also prepared by those who gave addresses, in order to illustrate their talks to better advantage.

"I sell nothing but your goods and I am not sorry I do."

A. B. Herschman, D. O. S.
Jersey City, N. J.

A Conference Without Souvenirs? Never!

It wouldn't have been an honest-to-goodness Conference without souvenirs, you know. In fact it would have been almost as bad as a circus without peanuts or elephants. So we had some. Watch chains, with a button bearing the AOC Co monogram in gold on a rich blue ground. Everyone wore a chain and they proved to be a great hit. What do you think of the idea? Pretty good, isn't it?

Address by Mr. E. E. Rice

One of the most pleasant little spots of our Conference was the talk given us by Mr. Elwood E. Rice, founder and president of the Rice Leaders of the World Association.



Elwood E. Rice

It is safe to say that after listening to Mr. Rice's inspiring talk, there was not one present who did not have a bigger and broader faith in the Association and its aims than ever before. It is a splendid movement, this calling attention to the principles of Honor, Quality, Strength and Service on which the business of members of the Association are founded. We want every dealer who sells AOC Co goods to take advantage of the opportunities offered by this Association, through the fact that the AOC Co is a member by invitation. The dealer who connects his own reputation to the sterling worth of the Association emblem and the principles for which it stands, will have a business-building force worth many times what it costs to secure.

"I might state that I received my first shipment of Fits-U Luxe Mountings and think it is a dandy; also, the manner in which they are packed is fine."

David N. Berris, Tiffin, Ohio.

Some Selling Force, This!

Every man on the broad grin. They've just had an extra inning dinner served by the AOC Co French chef, so they have a right to look happy. Papa Smalley has a chick or two from each of our offices in the bunch. How many do you know?

Hands Across The Sea

No, this isn't a photo of Barnum's "tallest man on earth." It's merely A. C. Smalley shaking hands with Moseley of the AOC Co Ltd., London. They were taking a constitutional on the roof of our office building, after dinner, when the photographer slipped up and caught them.





Advertising That Brings Success

The result of an investigation showing what kinds of Advertising are being used to the best advantage in the Optical Profession

ALL businesses are peculiar, some more so than others. Ask any man what business is the most peculiar of all and he will probably say, "The one I'm in." Of them all, however, the Optical Profession has perhaps as much right as any to claim the doubtful honor of being "most peculiar."

With the purpose in view of finding out at first hand exactly what certain successful dealers were doing to solve this question of advertising one of the most peculiar businesses in the world, the AOC recently sent letters to a large number of optometrists and opticians all over the country, asking what kind of advertising they were using, why they had chosen those particular kinds, and what results they were getting. The replies, while largely indeterminate, were nevertheless sufficiently clear to point the way toward those certain kinds of publicity which are today being used to the best advantage in the Optical Profession. As the names of those to whom letters were sent were selected quite at random from a mailing list covering the entire country (the only criterion of fitness for receiving a letter being the amount of advertising which had been done), the results may be taken as fairly typical for the entire profession.

Incomplete Investigation

ONE fact which was particularly noticeable in a large percentage of the replies that were received was, that the optometrists and opticians were often quite unable to give definite reasons for using one form of advertising in preference to another. As one man expressed it, he "Used all these mediums to get business because they seemed good and were more or less strongly boosted by the agents who were selling each particular line"—a tribute to the earnestness and ability of advertising solicitors, but hardly one to the optometrist himself. Spending money without making the most careful investigation of whether or not you are

spending it in the best way is a rather foolish proceeding.

A Business of a Dual Nature

THIS fact can perhaps be partially explained, although hardly excused. The kind of work which an optometrist or optician is forced to do partakes of a dual nature, having both a professional and a business side, (if it is possible to separate the two). Too many are apt to cultivate the "optometrist" side of their business; that is, their personal service work, such as the examination of the eye, to the neglect of their business side, consisting of actually selling eyeglasses, spectacles or lenses. This is a mistake. While the work of the optometrist has a distinctly professional flavor, those who are most successful in this work are the men who are studying their profession as a business of buying and selling, that requires a decent knowledge of business methods and administrations. In this connection we recommend that if you have not had long experience in advertising, you read some of the many excellent new books which are being published on this subject. Thus some knowledge of the underlying principles which are largely responsible for the success or failure of advertising can be learned, and your own publicity work will profit accordingly.

Personal Letters Most Effective

THE dual nature of the work which an optometrist or optician does also largely accounts for the fact that in a majority of the replies which the AOC received, it was agreed that *personal recommendations, personal letters, and circulars* were the most effective forms of publicity. Few would ever think of selecting a doctor because he used an attractive newspaper advertisement. A doctor's business comes to him almost wholly through personal recommendation of his satisfied patients. There is

Follow the Crowd





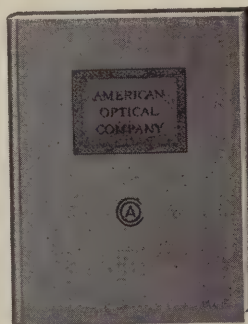
only one way in which you can gain the benefits of personal recommendation, and that is to give satisfactory service. No one can give you rules for this.

Next to personal recommendation, the personal letter is the most intimate form of advertising. It is not surprising, therefore, that they should be most effective for the optometrist and optician whose work is so largely of a professional nature.

List of Customers a Necessity

BECAUSE of the importance of direct-by-mail advertising, it is extremely necessary for an optometrist or optician to give particular attention to the building up of a list of names of those persons whom he knows are interested in optical affairs. A filing list should be started with a separate card for each name. Every person who comes to your office or store should be asked to give you his or her name whenever it is at all possible. Not long ago the writer was standing in an optometrist's store when a lady came in to purchase films for her camera, (which were a part of the stock carried by this particular store). The proprietor, noting that she wore glasses, engaged her skilfully in conversation, leading to the point where she was very willing to give her name and address. After she had left, the information was carefully noted on one of the proprietor's mailing list cards. If such a proceeding is persistently and tactfully followed, a mailing list may be made to expand astonishingly fast. Directories, Blue books, voting lists, etc., may also be used to help your mailing list develop growing pains. But it is well to remember, when selecting names in this fashion, that every butcher, baker, and candlestickmaker in your town has equal right to such lists, whereas that which results through personal contact with yourself or your store, is distinctly your own property. Its value is far above any other that you can make or buy.

Have you got it?



THE AOC GENERAL CATALOGUE

If not, write for your copy at once

A Follow-up System

ONE excellent way of using your mailing list is to run it in connection with a "follow-up" system. An optometrist in a large Middle West city arranges his cards in a dated daily file, so that his attention is automatically called to each card two weeks after it is first filed. He then sends out a regular form letter to the customer, inquiring whether the glasses he fitted are proving satisfactory, whether they need any slight adjustment, or whether he or she needs further attention. Even though this letter may not receive a direct reply, the one who receives it feels flattered to think that the optometrist has taken such interest, and it is deeply appreciated. Every two

months, the optometrist sends out some appropriate circular letter to his entire mailing list. If it is Fall, and schools are about to begin, he may send a letter calling attention to the necessity for proper attention being given to school-children's eyes; if just before Christmas, he perhaps calls attention to certain of his goods as being appropriate presents, such for example as Aluminum Cases, Amoptiscopes, etc. In this way he has succeeded in building up a splendid business and is now very widely known for the quality of his work and the excellence of his service.

Optometrists or opticians in small cities or towns will usually find personal advertising matter more effective than will their fellow workers in the larger places. One possible reason for this was baldly and succinctly stated by an optometrist in Oregon who wrote that "The country people will read anything you send them."

Newspaper Advertising

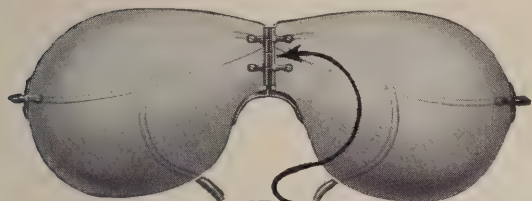
NEWSPAPER advertising is perhaps the most general form of advertising and surely one of the most effective. Its greatest usefulness is for those

(Continued on Page 10)





Push AUTOGLAS Sales This Fall



SEE THAT HINGE

(PATENTED)

A universally popular motoring and shooting spectacle known to everybody. Unobstructed vision, perfect fitting, comfortable and efficient.

The AUTOGLAS is supplied regularly with amber lenses of periscopic shape, absolutely without focus. If desired it may be procured also with prescription lenses having the individual wearer's correction. While amber is usually desired and is supplied unless otherwise specified, white lenses will be supplied at the same prices.

The AUTOGLAS is made with center piece and temples of gold-filled stock.

Made with Plano Meniscus lenses, in four shapes, two large and two medium, and a set of four for trial purposes is recommended.

AUTOGLAS Complete in Case, retail price per pair	\$5.00
Repair One Lens, retail price	2.20
With correction Cylinder not over 2.00 D and total focus not over 4.00 D complete in case, retail price	9.00
Repair One Lens	4.20
When correction exceeds 2.00 D in Cylinder or 4.00 D total focus	13.00
Repair One Lens	6.20
Trial Sets in case comprising four glasses, showing each of the different shapes	20.00

EXTRAS

In addition to the above prices, the following "Extras" will be charged:

For Plano Meniscus Glasses, dark amber, Fieuzal and Smoke,	\$0.50 per pair extra
For Prescription AUTOGLAS, dark amber,	\$2.25 per pair extra
For Prescription AUTOGLAS, Fieuzal or Smoke,	\$4.50 per pair extra
For Plano Meniscus and Prescription Glasses other than regular sizes	\$1.00 per pair extra

"I am using the Fits-U finger mounting only after trying several others. I find that your mounting is the best, and am therefore willing to advise it to all my patients."

David A. Ricardo, O. D., Boston, Mass.

AOC_o TRIAL SETS

AOC_o Trial
Set No. 2631



When a Company has made trial sets for 25 years and has succeeded in bringing them to such a point of excellence as to make them the world's standard, it is pretty good proof of their reliability and quality.

Illustrated above is one of the traveling style sets that has helped to build our reputation.

It is No. 2631, with contents "D": 35 pairs sphericals, 21 pairs cylinders, 7½ pairs prisms, 18 disks and colored glasses, one 3 cell and one single cell trial frame.

The case is covered with fine quality black or tan leather as desired. Lined with velvet. Space underneath tray where stock may be kept.

This style case may be had with a number of different contents

We have just issued a new trial set catalogue that pictures and describes our complete line. It is something that every oculist and optometrist should have. If you have not received a copy yet, write at once, and we will send you one.





Our Fall Advertising Campaign and Yours—

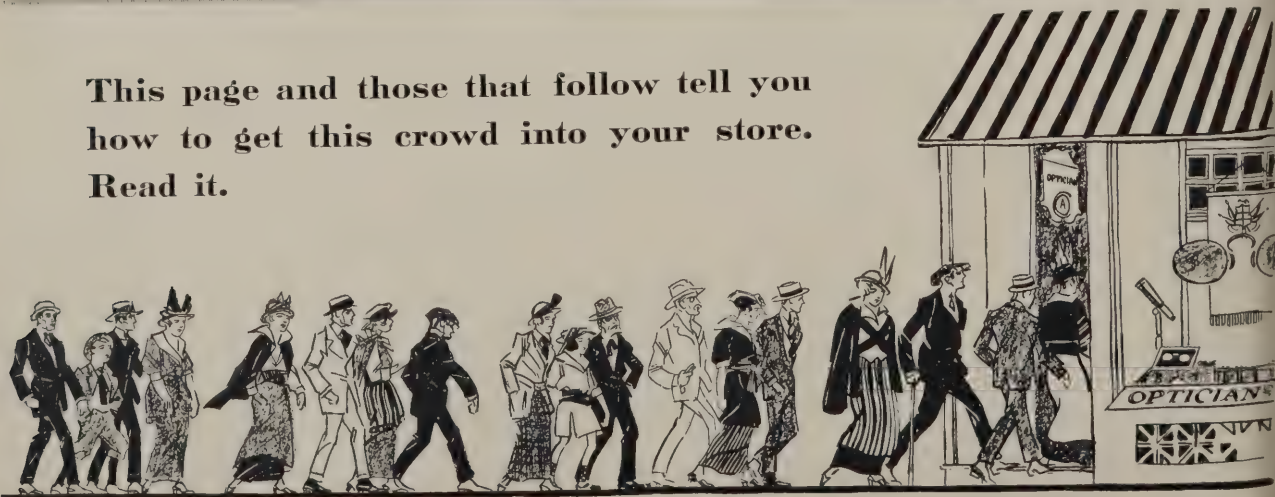
We show on Pages 12 and 13 the first advertisement of our Fall campaign, together with advertising helps for *you*, such as window cards, moving picture slides, newspaper ads, blotters, etc.

All of these advertising helps make use of the same illustrated border as is used in our national magazine advertising. This is for the purpose of helping you to cash in on our national campaign to the fullest possible extent.

Our advertising, beginning with the November issues, will run month after month in the leading national magazines, and will reach 25,000,000 readers. This means that in your own town our advertising will be brought to the attention of at least one out of four of the total population. The result is sure to be a largely increased demand for American Optical Company goods. The best way to concentrate the local demand on *your* store is to tie up *your* own advertising, window display and circularizing with our national campaign.

Team work of this kind is absolutely necessary if we are both to get the best results, and we earnestly urge you to send your orders for November advertising helps at the earliest possible date. It is understood, of course, that we make no charge for any of this material and we hope,

**This page and those that follow tell you
how to get this crowd into your store.
Read it.**





therefore, that you will request only such quantities as you are sure you can use to advantage. This will ensure more prompt delivery.

On the following pages we describe in more detail the various advertising helps offered and the way to use them.

The Newspaper Advertisement

The newspaper advertisement shown on page 13 will take only four and one-half inches single column in your newspaper but it will dominate the page on which it appears. Your local newspaper's rate for this small space is very low. Persistence is what counts in advertising and we urge you to run this advertisement in every issue of your newspaper from October 15th to November 15th. Everyone who has seen our November magazine advertising will instantly associate it with yours and will recognize your store as the place to buy American Optical Company goods.

Similar newspaper advertisements, corresponding in illustration and design to our magazine copy, will be available as announced in AMOPTICO during our national campaign.

The electrotypes of this November newspaper advertisement include only the illustrated border. The copy is to be set by your local newspaper, which will make no charge for this service. This is done so as to permit changes of copy during the month. We would suggest a change of copy at least once a week, beginning the first week with the copy shown in the illustration on page 13, and subsequently shifting to any of the following three additional pieces of copy:

Your Eyes Earn Your Living

How much could you earn in your present position, how long could you even hold it, if you were blind? Defective eyesight is simply partial blindness. It's a poor economy to put off wearing Fits-U eyeglasses when you need them. It affects your earning power.

JOHN SMITH & Co.

217 Main St.

Eye Comfort

means good glasses accurately fitted. The AOCO lenses and eyeglasses which we sell are the best obtainable, and we know how to

make them fit your eyes right. Let us show you what eye comfort means.

JOHN SMITH & Co.

217 Main St.

Your Children's Eyes

You cannot be too careful of your children's eyes, especially during their years at school. Careful investigation has shown that most backward scholars have some defect of vision. Let us examine your children's eyes.

JOHN SMITH & Co.

217 Main St.

Additional changes of copy accompany the cut, thus giving you a wide range of choice.

The Window Card

The window card shown on page 12 effectively displays the same attractive design used for all our advertising in the November magazines.

As you have doubtless already noted, the reading matter of this November magazine advertising fea-

tures the nationally known Fits-U eyeglass. A good Fits-U display in your window reinforced by these cards will immediately locate your store in the minds of passersby as the place where this eyeglass, advertised in all the leading magazines, may be purchased.

We have also prepared three pasters containing additional reading matter, which may be used to vary the appeal of the window cards. The new reading matter is simply pasted over the old, giving you the equivalent of several window cards in one. The reading matter on the extra three pasters is as shown above on this page.

Movie Slides

The lantern slide for use in moving picture theatres, as shown on page 12, affords one of the best possible means of focussing the local interest aroused by our magazine advertising on your store. Up-to-date advertisers everywhere realize the great value of moving picture advertising for

(Continued on page 14)

THE FITS-U EYEGLASS
will prove to you that glasses need
not be unbecoming

THIS IS THE FITS-U EYEGLASS
Comfortable Inconspicuous
and Easily Adjusted

THE FITS-U EYEGLASS
gives all the security of spectacles with an
infinitely more becoming effect

**The three changes of copy supplied
with the window card**

OUR NEW ADVERTISING CAMPAIGN

and how you can make it work for you

If those who or should wear glasses saw this ad in the magazines and this ad in your local newspaper and this slide at the neighboring movie show this display card in your window and received this letter or folder in the mail,

WOULD YOU GET THEIR TRADE ?

Glasses That Become Yours

Our glasses are not merely of the best quality and accurately fitted. They are more than that. In each individual case we make sure that both lenses and mountings are really becoming to the wearer. Women especially appreciate this feature of our work.



JOHN SMITH & COMPANY
217 Main Street

"I would strongly recommend the Fits-U mounting, madam."

It is certainly the most becoming and also the easiest to adjust correctly. You scarcely notice the pressure, yet the lenses are always held firmly in the right position. We have found the Fits-U by far the most satisfactory finger-piece mounting. It gives the security of spectacles with an infinitely more becoming effect."

Ask your oculist or optometrist — he knows

AMERICAN OPTICAL CO
Southbridge, Mass.



Newspaper Advertisement

Blotter and Bundle Stuffer

GOOD EYES AND GOOD LOOKS

The surest way to preserve your good looks is by taking good care of your eyes. Nothing causes wrinkles quicker than eyestrain. Glasses need not be unbecoming. Let us show you our inconspicuous Fits-U mounting.

JOHN SMITH & COMPANY
217 Main Street



Our invariable rule is to provide the lenses you require in the mounting that most becomes you

Window Sign

Send for this new prototype, window card and blotter by return mail. We make no charge for any of this material. You must have your requests in ample time for printing and imprinting your name.

Our November advertising, as shown on this page, will close October 20th. To get the best possible results, want to start your local campaign on October 1st. Sit down and write to us about it.

Newspaper Ads, Lantern Slides, Post Cards, Circulars and Blotters, furnished Free



(Continued from page 11)

staple articles such as optical goods. Competent authorities have estimated that at least 16,000,000 people go to the movies every day in this country. Your local moving picture theatre can give your advertising a highly concentrated circulation with the least possible waste among the very people who are or ought to be your customers.

The lantern slide we offer here makes use of the same design as our November magazine advertising, and during that month in particular should prove a most effective means of bringing trade to your store.

The strain of intently watching flickering films is sure to bring out any latent defects of vision, and there could be no better time than this for presenting your argument to those who really need glasses. For the same reason it will be well to stipulate that your slide be thrown on the screen toward the end of the performance.

Blotters With the Same Design

The design shown on page 9, corresponding to our November magazine advertising, is available also on blotters. We will imprint these in reasonable quantities, with the name and address of any dealer in American Optical Company goods.

This imprinting takes time and it is particularly important that your request for this material be sent to us at the earliest possible date.

Every enterprising dealer in optical goods realizes the value and importance of accurate and up-to-date lists of present and prospective customers. A tactful effort should always be made to secure the name and address of every person who makes a purchase in your store. Additional names may be obtained from telephone directories and similar sources. These lists should be circularized from time to time with announcements of any special sales and with advertising matter such as is offered here.

If you extend credit in your business it is worth remembering that the two-cent stamp which carries your monthly statements might just as well be working up future trade for you at the same time.

Give it a Good Try in November

We have given a great deal of time and attention to the various advertising helps described in this issue of *Amoptico*, and we have spent a great deal of money on them. We have not done this from pure philanthropy. We know that the quickest possible way to increase our own business is to increase yours.

We hope that you will meet us in the same spirit, help us to get together for the team work that wins out in business as in everything else.

No one ever made a success in advertising by going into it half-heartedly. We therefore urge you to undertake a complete local campaign, using all of the advertising helps offered here. Give it a

good try-out in November at any rate. We feel sure that if you do the increase in your business will warrant its continuance.

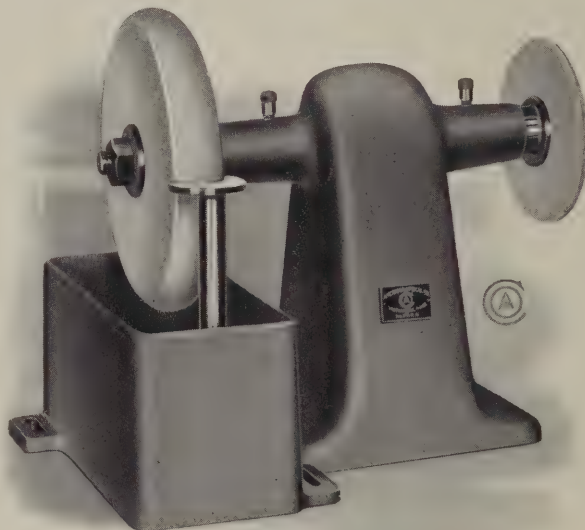
If we can help you with any particular advertising or sales problem do not hesitate to write us about it. That is what we are here for. And last but by no means least, let us repeat once more:

Get your requests for advertising helps in *early*. The safest way is to sit right down *now*, and send us your letter by return mail.

Grind Your Perfection Bifocals

on a machine of the latest and most improved design. The AOC Co M85 grinder shown here is the neatest, handsomest and most efficient on the market. Its price is \$25.00.

Your jobber can supply you with this machine or with any other AOC Co machines. Write for an AOC Co general catalogue, describing them.



"The AOC Co catalogue is a jewel to any optometrist or optician, as it gives practical reference to all articles manufactured by the AOC Co. I find it very convenient and want to convey my appreciation. Have made good use of your folders and have no doubt but what they bring results. Have used your mountings, frames, and Fits-U's, and have found them satisfactory in every way. It has been proven to me by actual experience that your rimless mountings and frames are very enduring. Some time ago a patient came in and claimed that the frame he had been wearing had given him great satisfaction, and as he had been wearing it for about 7 years he wanted to have me replace it. The frame was in pretty fair shape, but as he was going to Alaska he wanted to fortify himself against breakage. On looking inside of the bridge I found it was an AOC Co 1/10 12K frame. Having the same handy, I showed him I could duplicate it, which I did with pleasure. I just wanted to mention this incident, as you no doubt will be pleased to hear it. Certainly it convinces that AOC Co goods are all that they are represented to be."

CHAS. SCHWARTZ, Seattle, Wash.



Amoptico

Amoptico

Reg. in U. S. Pat. Off.

Vol. III September, 1914 No. 6

Published Monthly by

American Optical Company

1833-1914

Channing M. Wells
President

Albert B. Wells
Treasurer

J. Cheney Wells
Vice-President and Secretary

General Offices and Works

Southbridge, Massachusetts, U. S. A.



New York . . . 15 Maiden Lane
Chicago . . . 122 S. Michigan Boulevard
San Francisco . . . 140 Geary Street
European Agency . . .

American Optical Company, Limited
39 Hatton Garden, London, E C

Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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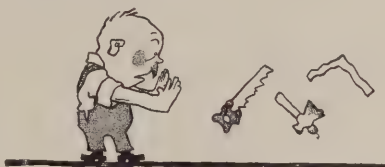


WE know a firm which prides itself on the quality of the eyeglasses it sells and the high-grade accurate fitting work it does. It handles the best eyeglasses on the market. If you were to accuse it of doing unsatisfactory work because by such methods it could save one cent on every sale, the members of the firm would promptly become righteously angry and probably start to tell you—a variety of things.

Yet that firm, in order to save approximately one cent on each sale of eyeglasses, makes it a practice to use an inferior quality of case. They jeopardize their reputation as dealers in the best optical goods, by arguing, apparently, that the *eyeglasses* are what they sell and what are important, whereas the case is not

worth any attention; forgetting that a customer must carry the case as well as the eyeglasses, and a shabby case will not make him feel any more kindly toward the firm that gave it to him.

Cheap cases are made to hold cheap eyeglasses. It seems to us rather "penny wise, pound foolish" to use them on the better grade goods. At most it only saves one or two cents, and it means that long chances are taken of dissatisfying the customer. On page two of this issue we show a number of first quality polished aluminum cases that will give satisfaction wherever used. Look them over carefully. Perhaps you can use them to good advantage.



A GOOD mechanic never works without the best of tools, and all the tools he needs. We see no reason why those who conduct a successful optical business should not work with the best of tools, too. And one of the best tools for carving out better business is an AOCo general catalogue. We call it "catalogue" because Webster doesn't seem to give us any other name more suitable. But it is more than a catalogue, or a list of optical goods. As P. T. Barnum would probably say, it is a "superb symposium" of facts relating to all the various lines of optical goods with which optometrists and opticians deal. We could fill this whole issue with nothing but testimonials we have received from delighted dealers who have requested a catalogue, and who now find it indispensable in their work. Then we could begin and fill up other issues, too. For they come in with almost every mail. But that wouldn't help you very much more than to show you what others think of it.

An AOCo general catalogue costs you merely the effort neces-

sary to write us saying that you want one. We will do the rest. If you haven't one now, better write today.



AN old story runs that once a rich man prepared a banquet. A most wonderful feast it was, with every artifice known to the culinary and decorative arts brought into play; for the surfeited minds and palates of the wealthy guests were to have a treat beyond all imagining.

The table was set, the master ready—when to his horror he remembered that in the excitement of preparation he had forgotten to invite the guests!

What a hurrying and confusion then began! Servants with belated invitations were sent scurrying to every part of the city. But it was too late. One man had just made arrangements to transact a land deal; another was to be married; and so the entire number gave excuses.

A foolish performance, wasn't it? But how about the optometrist who prepares a fine stock of optical goods and forgets to tell the public about it? How much better is his case than that of the foolish man who prepared a banquet without inviting the guests?

It is as essential to let the public know that you carry AOCo goods as it is to stock them. We spend thousands of dollars, monthly, in magazines with national circulations, to create a steadily growing demand for Fits-U Eyeglasses; and we hold at your free disposal newspaper electros, window signs, imprinted car cards, leaflets, lantern slides, blotters, etc., that will help to invite your "guests" to your store.

Specify AOCo goods to your jobber and be sure you get them. Then use the AOCo advertising service. Be the wise man with the best line of goods and the biggest number of customers.

"This has been the very best year of my eighteen years' business life, and I am very willing to credit AOCo goods with a large share of my success."

R. C. Augustine, Decatur, Ill.



The American Automatic Rimless Edging Machine No. M72

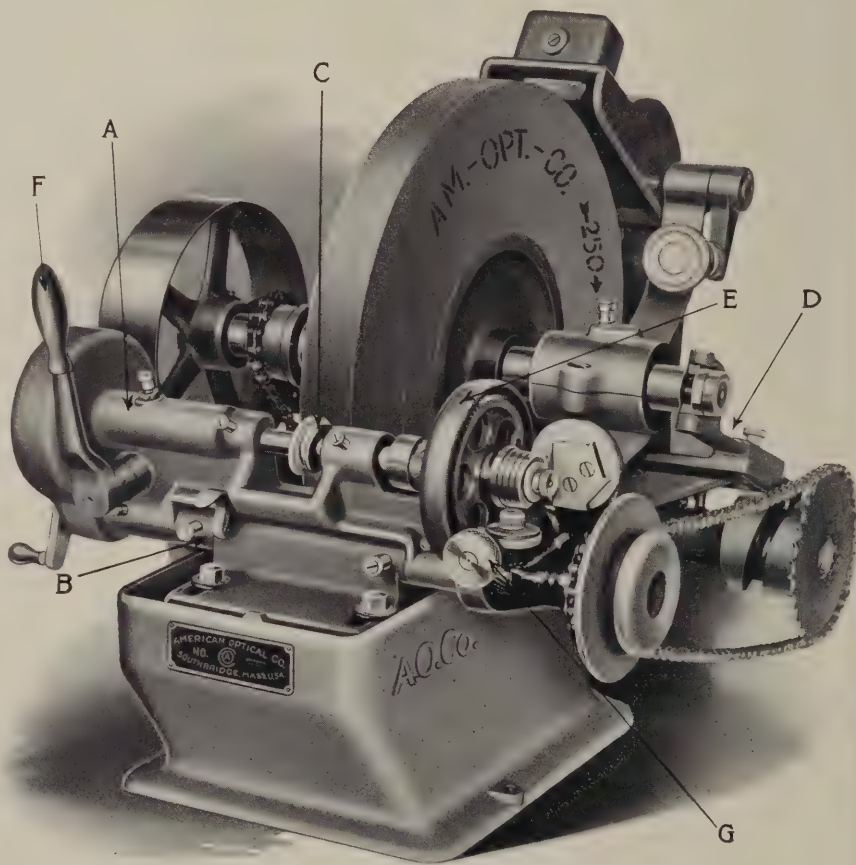
For those who have learned the value of accurate and up-to-date tools in their shops, the new American Edger is bound to meet with instant appreciation. It is not strange that it was left to the American Optical Company, with its unequalled facilities to perfect this type of machine, as from their long and varied experience in the manufacture and sale of lenses we have become fully acquainted with the requirements of a perfect Automatic Edging Machine.

In this new No. M72 Automatic Rimless Edger we have retained all those distinctive features that have proved their worth in the years past, with the addition of many new and novel features to meet the exacting demands made upon it by modern prescription shop orders.

Interchangeable Formers. All lens patterns, or formers, are now made interchangeable and are identical with those used on lens cutting machines. Five formers corresponding to standard lens shapes are affixed to end of spindle, and a change from one to another necessitates only the indexing of a specially constructed and hardened steel shoe, which is at all times in direct contact with the former corresponding to lens shape desired.

Lens Size Indicator. Any desired size of lens can be obtained by adjustment of knurled indicator (G), at the extreme front of the machine within easy reading distance of operator. An accurate reading of lens size is assured through a positive tension device on indicator worm and gear, eliminating the slightest back lash.

Adjustable Quick Acting Lens Chucks. Lenses are rotated on spindle (C) in a chuck the special design of which permits one or more lenses being held at a time, while still maintaining an even holding pressure, whether there be one or eight lenses in the chuck. This is truly a tremendous advantage, as it assures holding several lenses positively without a severe increase in pressure on the pads. A conveniently lo-



cated lever, (F), one throw of which will instantly open the chuck, permits the easy insertion of lenses. At the extreme left of the machine is a well proportioned hand feed wheel for the rapid finishing of lenses.

Constant Feed Tension. The entire swinging head (A) is pivoted at (B). Tension of lenses against stone is controlled by an adjustable weight applied at right angles to swinging head. This is the ideal method of feeding as it permits a uniform pressure throughout the grinding of the entire periphery of the lens. This is *not* true of machines where lenses are fed by spring tension. A hand operated clutch which will start or stop the feed mechanism instantly, when necessary, is located at the right of the machine, within easy reach of the operator.

Oscillating Wheel. The stone on the American Rimless Edger is the oscillating member and has sufficient travel to cause an even wear on its face, as well as permitting re-surfacing, if necessary, the entire face of wheel, with a special diamond truing attachment that can be inserted between pads in



Ameptico

place of lenses. Such an attachment will be loaned by the American Optical Company upon request, at a nominal charge to cover wear on the diamond, transportation, etc.

Automatic Hone. It is only necessary to re-surface stone should it become badly scratched or gouged, as the American Automatic Rimless Edger is equipped with an automatic hone for keeping the wheel perfectly smooth and true, and maintains a smooth velvet finish at all times. The travel of the wheel can be governed by means of adjustment provided on oscillating arm (D) which is operated by cam.

Incased Gears. All gears are partially enclosed, excluding dirt and insuring the operator against personal injury.

Provision has also been made for replacing all bearings by specially designed bushings, and all shafts are specially ground with a view to extreme accuracy. In the American Automatic Rimless Edger the stone is entirely above the bench which need only be cut for one belt and drain pipe.

The rapidity and accuracy with which this M72 machine works is as remarkable as is its simplicity of construction. Its many automatic features make it extremely easy to run. We recommend it to you as being the most advanced type of edger on the market. Send your order, or write for further particulars, to your jobber. Price \$135.

"Received your catalogue, which you so kindly sent and I wish to thank you very much for same. The beauty, style and size of your catalogue is beyond my expectations. It contains an education in itself, and we will find it of great value in becoming familiar with optical stock."

W. H. Rowe,
Prince Albert, Sask.

How the M72 Works in Practice

AMERICAN OPTICAL CO.,
Southbridge, Mass.

Gentlemen:

"We received the M72 edging machine shipped by our jobber. It is only fair for us to inform you that we have, in our shop, three other edgers and this last model of yours is the cleverest specimen of lens grinding machinery ever conceived. It is doing twice as much work as the other edgers and we are exceedingly pleased with it."

Yours truly,
EL PASO, TEXAS. EL PASO OPTICAL CO.



Saniglas

TRADE MARK REGISTERED

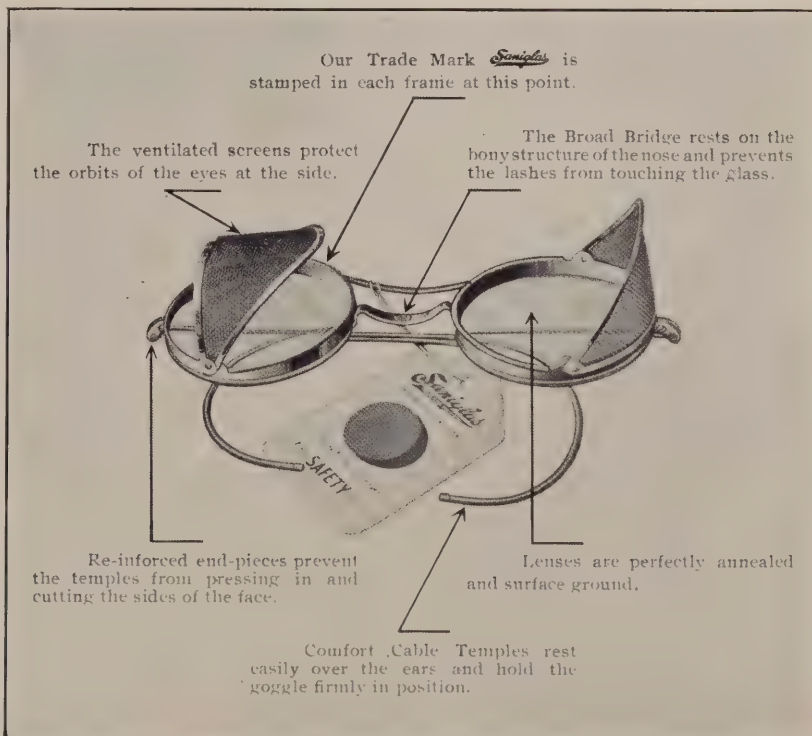
An Opportunity

Every year the eyesight of thousands of men is being impaired or totally destroyed by industrial accidents. In practically all cases the use of the Saniglas Eye Protector would prevent these terrible consequences.

Hundreds of firms, large and small, now provide their employees with Saniglas Eye Protectors, and many issue Bulletins stating that these eye protectors must be worn when workmen are engaged in certain hazardous occupations.

There are thousands who *would* supply them if they knew what the Saniglas would do—just as there are any number of individual workmen who would buy them if they knew of the sure eye protection they offer.

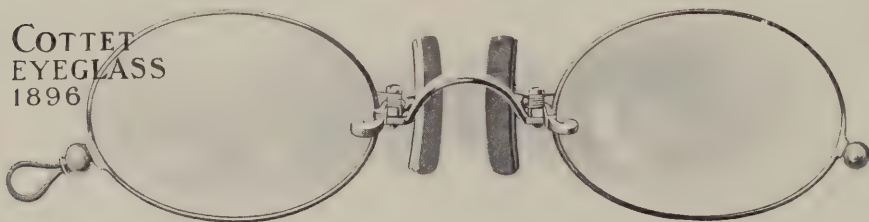
Ask your jobber to send you Saniglas Eye Protectors (made in an assortment of six sizes) and cultivate this wonderful new field for sales that now lies idle.





The Fits-U Luxe after Six Months

Six months ago we had the pleasure of announcing that we were ready to sell a new eyeglass with a construction such as had never been used before: upper-bearing pads working independently of lower fixed



COTTET
EYEGGLASS
1896

guards, by means of the AOCO Ovalex spring with which you are all familiar.

As business is apt to be a glorified game of "follow-the-leader," we were prepared to have our announcement received with a moderate amount of enthusiasm only. A large number of Fits-U users would naturally wish to sit back and await further developments before deciding to use the Fits-U Luxe.

That is what we had a right to expect. But we found that the idea was so obviously an improvement on everything which had gone before that orders came in through jobbers until our manufacturing departments were fairly swamped. We were almost caught napping.

That was six months ago. Since then those who ordered immediately have had plenty of opportunity to prove to their own satisfaction every claim we made for the Fits-U Luxe. And they have done it. Reorders have been sent in, larger than the first. Letters affirming the value of the eyeglass have been written. Optometrists and Opticians seeing and hearing of the success which the pioneer orderers have had, are now making it a point to see that

Fits-U Luxe is specified when their orders go to jobbers.

But, as we said, business is always a "follow-the-leader game." If you have been waiting for developments before trying the Fits-U Luxe, you may now act with perfect confidence. The Fits-U Luxe has made good. It has proved our early assertions that it is another long stride in the direction of eyeglass perfection.

You may order it with entire assurance that it will meet every requirement of use, beside giving greater comfort than has been possible with any other form of construction.

It is often commendable to sit back in this game of follow-the-leader and await happenings. But it is seldom the part of wisdom to wait until the game has almost gone by and then tag on to the tail of the procession.

Now that the Fits-U Luxe has actually proved itself, those of you who have been "sitting tight" should add it to your line without further hesita-



Covered by basic patents

FITS-U LUXE
EYEGGLASS
1914

tion. Your jobber has it and can sell it to you as follows:

No. 03121 Fits-U Eyeglass, Patented (Ovalex	
1/10 12K Gold-Filled Mountings	\$7.50 Per Dozen
10K Gold Mountings	16.50 " "

Clearing the Path for the Fits-U Luxe

About two-thirds of the eyeglass battle depends on the accuracy with which fitting is done. We have had a number of inquiries as to the proper way to fit the Fits-U Luxe.

Always remember that upper guards and lower bearing pads are independent of each other on the Fits-U Luxe. You should first adjust the lower pads to the patient's nose, bending the loop arms with pliers until the glasses rest comfortably and securely in position. This is the secret of Fits-U Luxe comfort. The upper guards, actuated by AOCO Ovalex springs, should then be fitted to prevent the glasses from tilting forward.

Correct fitting done in this way will give the Fits-U Luxe an opportunity to make good. Results will be gratifying both to the patient and yourself.



Advertising That Brings Success

(Continued from page 8)

who are located in larger cities. The use of the "business card," however, should be avoided. If you have nothing more to say for yourself than that your name is John Doe and that you are an optometrist, say it outside of the newspaper columns. It costs less.

There are two specific kinds of "copy" which may be used in newspaper work, the one featuring your skill and long experience as a competent eye specialist; the other featuring the kind of eyeglasses or spectacles you sell and the special advantages they possess. An optometrist in Massachusetts recently tried experiments with both kinds of advertisements at the same time and under exactly similar conditions. He found that the advertisements which featured the goods rather than his personal qualifications for work were almost four times more effective than the others.

The thought of wearing glasses is always distasteful to the man or woman who has never been compelled to use them. For this reason, the copy which tends to allay sentiment about the discomfort, the annoyance and the unsightliness of glasses is in the long run most effective. Use of anatomical cuts which show sections of the eye, or diagrams of a similar nature, should be avoided as much as possible. To the optometrist who is thoroughly familiar with them, illustrations of this character are always interesting, but to the layman they are usually uninteresting and very often actually repulsive because of the association of thoughts they are apt to cause.

Window Displays Sell Goods

PRACTICALLY the unanimous opinion of all who answered the AOCo letter was that window displays were a most effective means for increasing sales. Creating effective displays of optical goods is a difficult matter, owing to the small size of the goods and their similarity. It may be said that it is best as a general rule to feature only one single line or style of goods at a time. A promiscuous selection of optical wares is usually unattractive. Those special lines which should be featured are of the utmost importance. No sane man will buy a pair of eyeglasses merely because he sees a pair in your window. In order to appreciate their good points, he must become thoroughly acquainted with them, and this he can only do by coming inside your store and talking over the subject with you. The many different points on which the excellence of an

eyeglass depends can hardly be emphasized in a window. Such goods as motor-glasses, smoke glasses, etc., make excellent subjects for window displays.

In the case of some unusual eyeglass, however, this rule may be broken. A new construction, like the Fits-U Luxe for example, is sufficient cause for an educational window display of the goods with brief explanatory signs. These signs should not, however, attempt to explain all the features of the new construction. They should merely get the passerby *into* your store in order that you may explain them yourself at length.

Seasonable displays of optical goods are always in order, and are usually very much worth while.

Analysis of Problems Necessary

UPON personal advertising matter, newspapers, and store windows will probably fall the burden of the greater part of your publicity. Other forms, such for example as Moving Picture slides, outdoor signs, etc., are all helps in certain cases. But no general rule for these can be given.

The experience of many successful optometrists and opticians teaches that with proper restrictions, publicity may be applied in this most peculiar of businesses with real expectation of success. But the particular problems of your own individual location, class of customers, distribution of population, etc., must be worked out with the greatest of care. When this is done and you have decided on those kinds of advertising which seem to be most suitable, taking into account all these different circumstances, there will be the real success of a live, growing business within your grasp.



The Kryptok trademark attains its full value only when coupled with the AOCo trade-mark. Our reputation behind Kryptoks is your assurance of satisfaction. Specify AOCo Kryptoks of your jobber.



Behind the Palms at St. Louis

Right across the end of the big exhibition room of the Planters Hotel where the A. O. A. Convention was held, July 18-25, stood a beautiful white pavilion that bore the name "American Optical Company Largest Manufacturers of Optical Goods in the World"; and a banner announcing that the AOCo was by invitation a member of the famous Rice Leaders of the World Association.

It was our exhibition of optical goods that was being displayed, the largest and finest at the Convention. The register kept at our booth was very nearly as large as the official register in which every Convention visitor signed his "John Hancock." So you may judge how popular our display was.

Green foliage, fresh and cool from out-of-doors, and souvenir fans helped to make this booth an oasis in the fierce St. Louis heat.

We expect to be at the San Francisco exposition next year. Why not meet us there, too? Our display will be worth seeing.



AOCO UNI-BIFO LUXE



Reg. in U. S. Pat. Off.

"PATENTED"

Onepiece Ophthalmic Bifocal Lenses

"A Single lens with a double purpose"

EIGHTEEN years ago a man by the name of Cottet invented the fingerpiece eyeglass principle. It has taken all the time since to develop Fits-U Luxe Eyeglasses, the perfection of this first idea.

Many more years ago Franklin invented the first bifocal lens. It is only recently that we have achieved the fulfillment of his idea of a perfect bifocal. Truly, the world moves slowly.

But it is not necessary to wait longer. You now have at your command the AOCo Uni-Bifo Luxe Onepiece Lens, with two foci invisibly ground on one single solid piece of glass.

Absolutely free from colors.

You may grind the lens as thin as you wish.

The dividing line is practically invisible.

Two sizes of reading portions are available.

AOCO Uni-Bifo Luxe Onepiece Ophthalmic Bifocal Lenses can be obtained of any jobber holding a finishing license. Try them.



Plan Your Rice Leaders of the World Display Now

During the year's publicity campaign of the Rice Leaders of the World Association, the emblem, with which you are now all familiar, will be shown more than thirty-three million times in magazines alone. That means that every magazine reader in your town will be thoroughly familiar with it and the

principles of Honor, Quality, Strength and Service for which it stands. They will realize that its use in connection with optical goods means that those goods are recognized as the best made, and can be fully trusted in every particular of value and service.

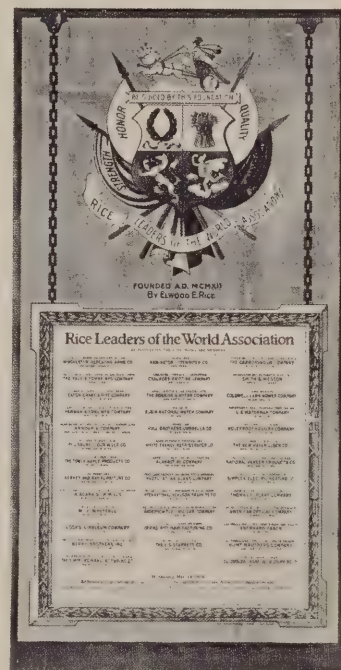
What are you doing to apply this unique advertising and business building force to your business?

As a dealer handling AOCo goods you have the privilege of using the emblem, for the AOCo is a member by invitation of the Association.

The best way we know of to secure the full value from this emblem is to write to the Rice Leaders of the World Association, 5th Avenue and 34th Street, New York City, and tell them that you wish to enter the \$15,000 window dressing contest which is now being conducted. They will send you a beautifully colored banner, bearing the Association emblem.

Using this banner, you can then prepare a window display of AOCo goods and try for one of the hundreds of prizes, ranging from \$2,000 down, which are offered for the most attractive displays entered in the contest. You must allow the display to remain in your window at least one week, and should then send a photograph of it to the Association, from which its effectiveness may be judged.

Don't delay. Write at once for a banner and full particulars of the contest. It means little work, little expense and a splendid opportunity to identify yourself with an Association which is nationally known for the sterling attributes of its every member.

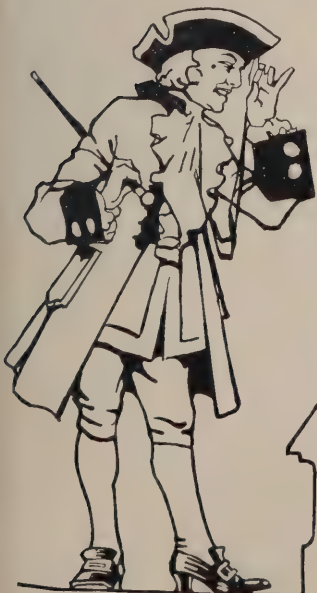


The banner that will be sent in response to your request, 45 in. long by 20 in. wide

**Fits-U
@
Eyeglasses**

"I am having a good trade with your Fits-U eyeglass as well as your complete line of goods. I wish to acknowledge the nice lot of splendid advertising matter sent me and beg to advise you that I have found it very helpful to my optical department. There is no doubt but what I have increased my optical business by using it."

Meyer Opt. Co.,
Stockton, Cal.



Safety First the Slogan Here



Clinics are not necessarily an integral part of the manufacture of specs and eyeglasses. But we

are all prepared for them nevertheless.

A completely fitted-up hospital room in charge of an experienced

nurse is always ready to receive any employee of the company who is in need of medical aid.

The AOCo has adopted the suggestions of insurance companies and the recommendations of the State regarding safety devices throughout the factory, and the result is very gratifying. Very few accidents are reported and these are generally more or less trivial in character because we are willing and anxious to help along the splendid Safety First movement.

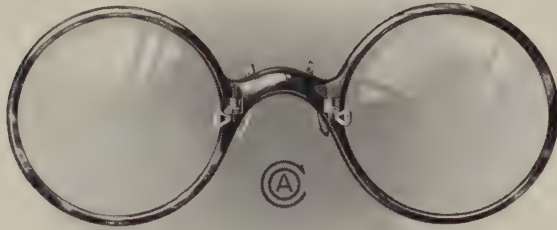




NEW GOODS *for* LIVE DEALERS



No. R3112
Pat. App.
For



New Design Zyloware Fits-U's

In the sale of style goods, such as zyloware finger-piece eyeglasses, the design is the most vital of all considerations. When a young man (or old for the matter of that) purchases an article of a peculiar style because it is "all the rage" his first thought is to get something just a little bit more "nifty" than anyone else has.

For this underlying reason, therefore, the new design zyloware Fits-U's shown here are particularly effective. They are neater than any other styles on the market.

Notice the illustration of the R3112 model. The spring and post screw are not set above the bridge as in all other styles. Rather they are set directly in the center of the zyloware itself. The "machinery" controlling the action of guards and fingerpieces is practically hidden. The bridge is strengthened at each end to preserve the rigidity of the frame under all reasonable conditions.

Owing to a peculiar bend in the fingerpieces they do not protrude into the lens areas. When in position the broad zyloware bridge and rims practically conceal the guards. The effect is that of an eyeglass made entirely of zyloware.

The second model shown, is our 1/10 12K No. 3112 Fits-U fitted with No. R811 heavy zyloware rims. The particular point to notice about this eyeglass is the straps. These are sunk in flush with the rims and each has two rivets, which prevent the rims from becoming loose and working out of alignment.

These models are made with 40 mm. eye, and can be supplied with any of the regular style guards. They have just the appeal of up-to-date style neces-



No. 3112 with Zyloware Rims

sary to make them satisfactory sellers. You may get them of your jobber as follows:

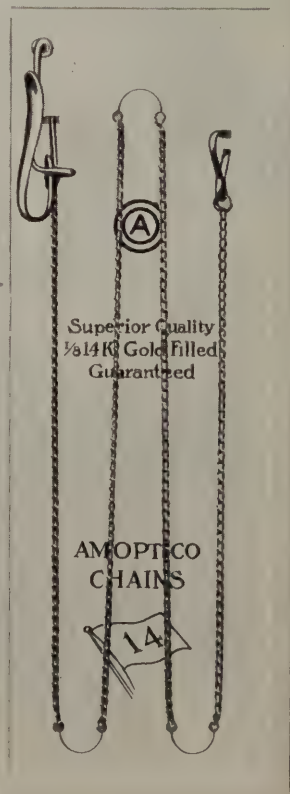
CAT. NO.	DESCRIPTION	PER DOZEN
3112	1/10 12K, with R811 heavy zyloware eyes, dark shell color	\$12.00
	With R811 eyes, light shell color	13.50
R3112	With 1/10 12K guards and arms	14.50

"Amoptico" Line of Gold-Filled Chains

Those of you who are familiar with the high grade quality of the AOC line of Amoptico 14K gold-filled spectacles and eyeglasses will welcome the news that the AOC Amoptico line is to be extended to include eyeglass chains. There is no reason why you cannot sell just as high grade a chain as any other article. It is largely a matter of salesmanship. No one likes to purchase a second rate chain after hearing the merits of a first quality chain explained. Inside of every one of us is a longing for the best. That is what will enable you to sell Amoptico chains, made in 1/8 14K only, the highest grade on the market.

Write to your jobber for the particular style of link, hairpin, hook and earloop you wish to sell and tell him you want the AOC Amoptico line. Aside from the fact that these chains are very fine quality, you will find their finish and color exceptionally good. They are the best that can be produced.

We are illustrating one of the chains here in order that you may see not only one of the most popular styles, but the card to which it is attached. Similar cards are used for other Amoptico chains. Put the mark of "first quality" on the goods you sell. Your trade and profits will reflect it.





Kilglare, Two Motor Glasses in One

Every autoist knows that "all-gone" feeling, as the blinding headlights of another car come springing out of the blackness to meet him. You can appreciate it only when you have bent over a steering wheel yourself and been dazzled by the glare. And your appreciation will lead you to realize the value of Kilglare motor glasses, that by a simple downward turn of the head enable you to eliminate the dangerous blinding acetylene rays. A third-lens segment of dark amber glass inserted in each eye does the trick. By merely lowering your head, this segment is brought before your eyes and the glare reduced to an amber glow. Your road still lies before you then; the danger is eliminated.

Kilglare motor glasses are made in two models: the No. 3348 B. E. Speedwell, and the well-known No. 3026 1/2. The ideas of comfort and efficiency on which they are constructed gives them the strongest kind of a selling appeal. Put them in your store, tell your auto-owning customers about them and their response will mean many sales. Specify Kilglare lenses when ordering.



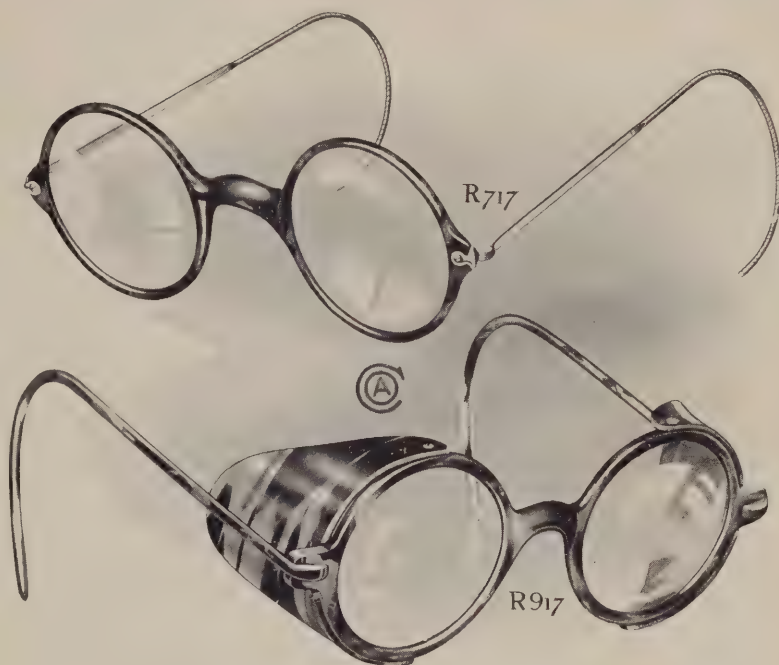
No. 3348 B. E. Speedwell Kilglare

DESCRIPTION

PER DOZEN

- | | |
|--|---------|
| No. 3348 B. E. Speedwell motor glass, with Kilglare lenses (upper third dark amber, lower two-thirds light amber) 47 mm. eye, complete with No. 377 Japtol case. | \$14.00 |
| No. 3648 Gold-Filled Speedwell motor glass same description as above | 19.00 |
| No. 3026 1/2 motor glass, white metal, round eye, with Kilglare lenses | 16.00 |

Prepare for Zyloware Trade This Fall



Probably you are all quite familiar with zyloware goods by this time and have found, just as we have that they are here to stay. Their lightness and the comfort of wearing them has earned them a permanent place.

The AOCo did not "fall all over itself," so to speak, trying to be first in the field with zyloware goods. We preferred to travel a more leisurely gait, picking our way carefully, for we knew that the results obtained would warrant the extra expenditure of time.

This is our first announcement of the zyloware spectacle and motor glass pictured here. In every essential feature of design, construction, and finish they show the result of the careful experimenting and the long stage of preparatory work through which they have gone. We have "made haste slowly" to such good advantage that we can unhesitatingly say that these are the best goods of their kind now being made.

The zyloware spectacle No. R717 has the patented AOCo invisible endpieces. Temples are half flat half comfort cable, with smooth tips. By combining these gold-filled temples with zyloware fronts we obtain lightness and great adjustability, a very desirable combination. 1/10 12K gold-filled stock is used for both endpieces and temples.

Made with 38, 40, 42 mm. eye; 58, 60, 63, 65 and 68 mm. P.D. Any style temple may be supplied on special order.

Our zyloware R917 motor glass challenges all comparison in point of design, excellence of material, workmanship and finish. The shaping of the folding screens is a work of art. Bridges are angled to provide a broad comfortable bearing surface on the nose.

Made with 40 mm. eye, 63 and 65 mm. P.D.

Fall trade is just beginning. This is the time to prepare for it by stocking AOCo zyloware goods. Make a feature of them in your store and you will have reason to congratulate yourself.

CAT. NO.	DESCRIPTION	PER DOZEN
R 717	Zyloware fronts with 1688 1/10 12K heavy 1/2 flat 1/2 comfort cable smooth tip temples	\$9.50
917	Dark Shell Color, with shields	18.00
R 947	Light Shell Color with shields	21.00

RETURN IN FIVE DAYS

American Optical Company
Southbridge Mass U S A



American Optical Company
SPECTACLES EYEGLASSES LENSES CASES ETC

NEW YORK
CHICAGO
PHILADELPHIA
LONDON

J. CHEMEL WELLS, NICK PRESIDENT
AND SECRETARY



Southbridge Mass U S A

WILLIAM W. WELLS, PRESIDENT
AND SECRETARY

Mr. Oculist,
Mr. Optometrist,
Mr. Optician,

Dear Sir:

One of the most vital needs of the optical business to-day is a line of gold-filled spectacles and eyeglasses that can be guaranteed with full confidence to give service satisfactory from every viewpoint; and that can be sold for a reasonable price at a fair profit.

The American Optical Company, backed by a manufacturing experience of more than eighty years, makes what is known as the "Amoptico" Flag Line of 1/10 14K gold-filled spectacles and eyeglasses. These are the best quality gold-filled goods now on the market.

We believe thoroughly in the "Amoptico" goods put out under our Flag trademark. We know that our unequalled manufacturing facilities and organization of skilled workmen place us in a position to make "Amoptico" spectacles and eyeglasses the finest on the market. These factors we have utilized to the full.

If your business demands the use of high-grade gold-filled spectacles and eyeglasses, we urge you to ask your jobber to send you AOC's "Amoptico" Flag Line goods.

You can always rely on "Amoptico" Flag Line goods, and their use will make you many a permanent customer.

"Follow The Flag!"

Yours very truly,

AMERICAN OPTICAL COMPANY.
E. M. Wells
President.

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. 3 No. VII

October 1914



Better Business

The war crisis in this country is over.

Fundamentally American business has never been in a sounder condition.

Crops which create wealth for the American people are the greatest in our history.

This created wealth is being distributed—spent in America.

There is no lens shortage. There has been no interruption in our glass importation from England, where AOC Co Centex Glass is made.

Certain goods formerly made abroad are now being made in America.

Our advertising plans will be carried out exactly as announced in *Amoptico*.

Our dealers' helps are better and more extensive than ever.

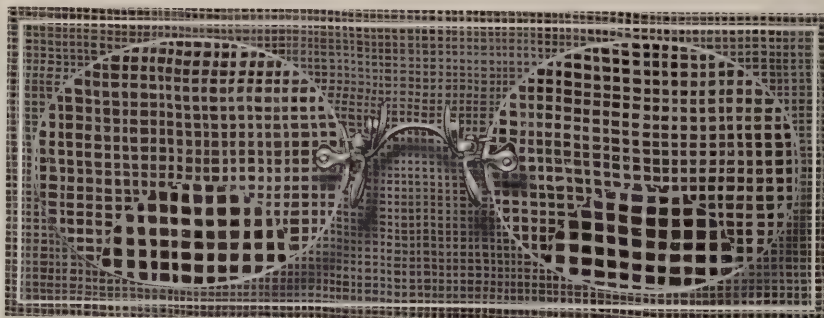
Your trade is there as always.

Go after it.

AMERICAN OPTICAL COMPANY



DO YOU KNOW THIS LENS?



It is the AOCO Uni-Bifo (Luxe) Onepiece Bifocal, ground from one single solid piece of hard scratch-resisting crown glass. It marks the culmination of years of experimenting, looking toward the production of the perfect Bifocal.

The AOCO Uni-Bifo (Luxe) Bifocal may be ground exceptionally thin. It is absolutely free from colors. The dividing line around the segment is practically invisible.

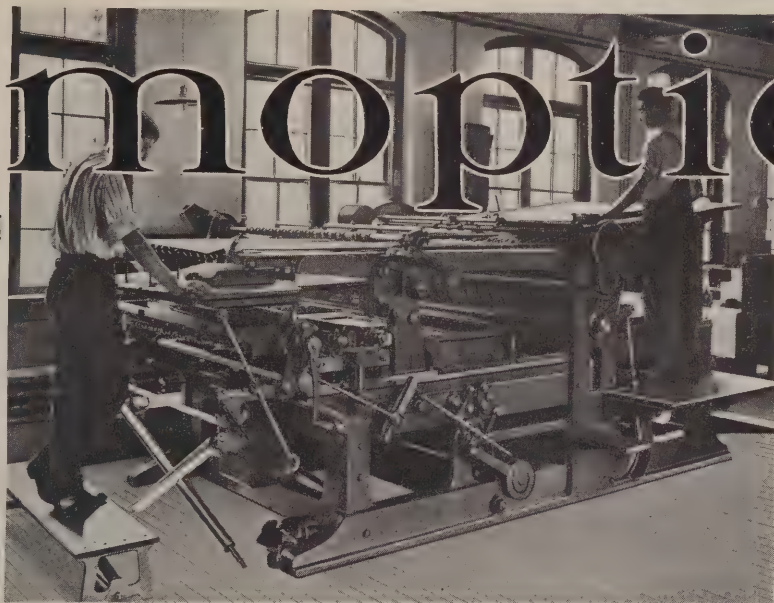
These points mean satisfied customers. They in turn mean bigger and better business.

Wisdom demands caution in the adoption of a new article. But wisdom also says, "I'll try it and find its good points myself."

Try AOCO Uni-Bifo (Luxe) Onepiece Bifocal Ophthalmic Lenses. Any jobber holding a finishing license can grind any prescription you want.



Amoptico



Where Your Advertising Material Comes From

UP in the advertising department the day's mail has brought in scores and scores of requests from optometrists and opticians, for the new circular that was announced in the last AMOPTICO. Down in the printing department two men are standing by a large cylinder press, steadily watching as the heavy "bed" of the press glides swiftly and almost silently back and forth, with every slide adding a sheet of ten circulars that will be used to fill the requests that have poured in.

It is fascinating to watch a big "cylinder" as it turns out its thousands of sheets of printed matter; yet we of the wonderful twentieth century have lost much of our perspective. It would take a Gutenberg or a Stanhope really to appreciate it. We accept the result without question. They, seeing it through the maze of problems which hindered and befogged their own progress, would trace the marvelous development which has brought the art of printing to its present stage of completion, and stand amazed. We, satisfied with results, often little guess of the labor and time that has been expended before the finished product was attained. But follow now the process of printing your blotters and circulars, and see the many cogs that must turn before they receive a final O. K.

As you enter the wing of our main factory, the first floor of which is completely occupied by the Printing, Box-making and Binding departments, you will see a long row of high cases extending down the side of the room at the right. This is where the type is kept, and where new matter is first brought, to be set up. Men stand

before the cases, picking out from the open compartments the letters that will reproduce the typewritten "copy" serving them as a guide. In their left hands are "composing sticks," small narrow trays with a single side. As the type is picked from the case, it is transferred to

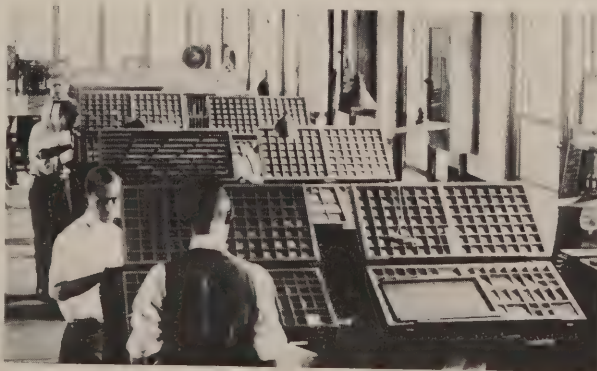
the "sticks," forming the words, lines and paragraphs that are to be printed.

When a strip of type several inches long has been "set," it is slid over to another metal tray or "galley" much larger than the first, and the process is repeated until the entire wording of the circular stands in a long strip of type.

It is now possible to take the first "proof" of the type, and correct it for errors. The tray that holds it is taken to a small "proof press" made for this express purpose, the type slid over to the flat surface of the press and inked with a small hand roller. A sheet of paper is laid lightly over the type and by means of a lever a heavy roller is forced across, transferring the type impression to the paper.

Usually at this point there are a number of errors that must be found by a careful reading of the proof: a small letter must be replaced by a capital, a "t" must be turned right side up, or quotation marks supplied. The variety of errors which can be made is amazing to one who has never seen anything but finished printed matter.

After being "proof read" in the printing department the sheets are sent to the advertising department for another reading. The errors corrected, and any necessary changes made, the long



Men stand before the cases picking out type.



Imposing stones where type is "locked up" before going to the press.

sheet of printing must be split up according to the way in which it will appear in the finished circular. So many lines will appear on the first page, so many on the second, perhaps allowing for space where an illustration is to be used. This process is called "making up a dummy."

The "dummy," showing roughly how the finished circular is to appear, must now be returned to the printing department and the type made to correspond to the new arrangement, and once again proofs are taken. A second correction is made, and if everything is satisfactory a final O. K. may be given. Perhaps, however, there will be further changes in order to improve the appearance of the circular-that-is-to-be.

If we are to print many circulars, say 150,000, we will use the big press, and so print them ten at a time. We have only one set of type forms, however. So we must have ten reproductions made—electrotypes—in order to print so many at once.

Now begins one of the hardest and most particular parts of the work. The electrotypes must be prepared to go on the press. Rectangular iron forms are brought out. The electros are laid in these and by means of blocks and wedges, firmly fixed in place. "Locking up" the electros requires patience and skill. Margins that are to appear on the finished circular must be calculated, and borders accurately placed. But at last, let us say, the work is accomplished. We heave a sigh of relief for we are now ready to prepare for the actual printing.

The heavy form is carefully moved over and placed in its bed under the large rollers. Before this the press has been carefully oiled, the ink provided, and all is now prepared as soon as the electros can be "made ready." A sheet of paper is inserted and very slowly the wheels are allowed to turn just once. On the sheet now appears the im-

print of the ten circulars, but they are not all clear. Some are heavy and black, others very light, and others uneven in color. This means that some electros are higher than others and are receiving too much ink. So a careful readjustment is made; sheets of paper inserted under this or that corner, until finally a proof shows them to be all perfectly level and true.

Now the wheels are started in earnest, the heavy form holding the electros flashes back and forth, at every trip adding ten circulars printed on one side to the pile. We are started, perhaps for the day, perhaps for several days, according to the number to be printed.

When enough of the large sheets have been printed, the sheets are turned over and the other sides of the circulars are printed.

After this process, the circulars are stored, still in the uncut, unfolded form, till an order comes from the advertising department for a certain quantity to be imprinted with Mr. John Smith's name and address. Then the entire process must, be repeated on a smaller scale: Smith's name set in



The finishing touch: imprinting your name on the circulars you are waiting for.

type, prepared for the press, the circulars cut apart and run through a small press for the last time. When they come out they are ready to be folded, tied up and mailed out to Mr. Smith, who is probably wondering "where in the name of the great horn spoon" those circulars that he asked for are.

Not only does the AOCo Printing Department handle advertising matter, but it has factory forms, box labels, millions of lens envelopes, and wrappers of all sorts to print. It has a complete equipment of presses that would do credit to any independent printing company. We hope some day you will give us the pleasure of actually showing you where your advertising matter comes from.



Latest Design Drill With Patented Improvements

You have undoubtedly, in your past experience, found many weaknesses in drilling machines. We have found them, too. It is because we have found them that we are able to offer you this newest improved drill No. M91.

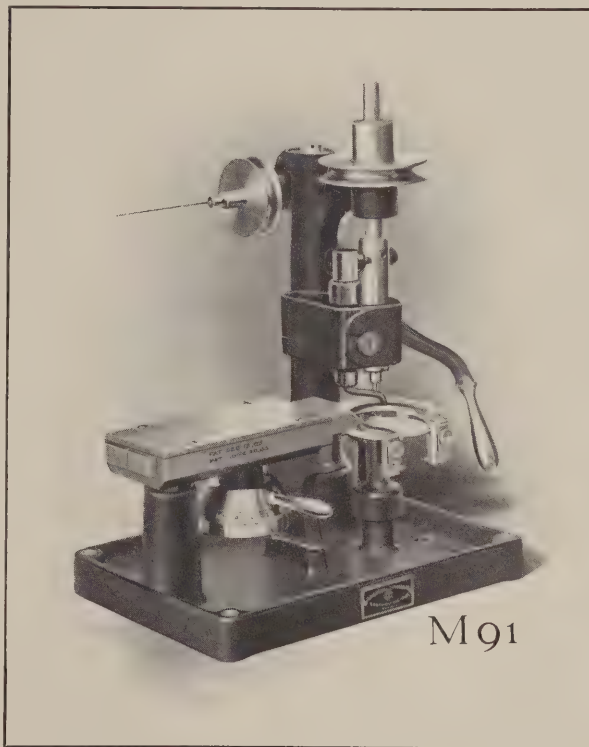
Probably every lens drilling machine on the market today will drill lenses—but there is a difference in the way in which they do it. Your interest lies in finding the particular one that will work most accurately, quickly and easily. The many improved features on this M91 make it the one you need.

First as regards melange. In drilling, the melange becomes charged with small particles of glass, and these work into the slides and moving parts, soon causing them to wear out. This M91 machine is so designed as to keep the melange from the slides and important parts of the machine.

A new patented feature announced for the first time is the design for automatically feeding melange on to the lens during drilling. This feature consists of a removable oil tank inside of which is a small force pump. As the handle of the drill is depressed the pump is opened, allowing a measured portion of drilling fluid to enter. When the handle is depressed still further a spring inside the pump is released, and throws a drop of melange on to the lens. There is never any danger of the drill's getting ahead of the melange. It always finds a certain quantity of melange waiting to make its work easy and efficient.

The jaws which hold the lens while drilling have unusually large wearing surfaces, ensuring long life and accurate service. They are opened by means of the small lever directly underneath

the slides. The graduated head to which the lever is attached indicates the position of the hole in regard to the center of the lens. By depressing the lower spring lever the lower half of the head may be revolved, making it possible to drill from 4.5



M91

mm. above to 4.5 mm. below center.

The lens vise can be swung out of the way when drilling through the lens. When swung into place the edge of the lens is brought into contact with an adjustable stop, which is directly back of the center of the drill. This stop is pivoted so that it accommodates itself to the curve of the lens whether drilling on line, above or below, and always ensures the correct distance of the hole from the lens edge.

Special arrangements have been made to permit accurate drilling of meniscus or toric lenses.

All drills are fitted with taper shanks and diamonds accurately centered. They will run perfectly true. An adjustable stop is provided so that any depth of hole can be readily controlled. The driving pulley is arranged to run on a sleeve, which takes all belt strain from the spindle and holds it in alignment.

The idler pulleys, which allow of belting the machine from above or below, also drive a spindle provided with taper holes. This can be utilized to carry a broach, or tool for rounding the ends of glass screw.

An unusual feature is that the bottom of the pan is sloped toward the right side, where a tapped hole has been made for inserting a drain through the bench top or table. This allows the melange drainage from the drill to be caught. When sent from the factory this hole is plugged, but it can be found by examining the under surface of the base.

Your jobber can sell you this M91 drilling machine, or give you further particulars for operating it. The price without diamond, with steel drill is \$43.75. Price for M91A with splint diamond, \$50; for M91B with turned diamond, \$56.25.

Fits-U Luxe Looks Good in Alberta

Any man has a right to be enthusiastic over an article that gives him such satisfaction as the Fits-U Luxe has given Mr. Jones. Evidently all noses look alike when he fits them. Why not try the Fits-U Luxe yourself?

"There is just *one* eyeglass mounting on the market now, the new AOCo Fits-U Luxe. I recently fitted a man whose nose was broken just where the bottom pads came, but a couple of little bends and he was pleased to find they set straight and clung so well.

I also fitted a fat lady with a fat nose; just the kind of nose that causes optometrists bother (when we use the old style mounting); but Fits-U Luxe did the trick—easily, too. The old style *would not* stay on. Fits-U Luxe for me."

F. H. JONES, Edmonta, Alta.



Why Bradley Couldn't Grind a Good Lens



"Pike hired Bradley: Bradley said he knew all about lenses. He had had more experiences with grinding lenses in his ten years of connection with optical lenses than Methuselah with all his nine hundred and sixty odd years of living had had with birthday parties. So

we took him at his word and tried him out in the shop.

"We gave him some new tools and he went at it. But he simply couldn't grind a good lens. He had all kinds of trouble with scratches so we had to let him go."

The man's fault? No. The fault of the emery? No. It was the fault of the grinding tools. And there is many another good man who is missing out in his lens grinding merely because his tools are not what they should be. The point is this: it is essential to use a suitable iron for manufacturing the best grinding tools. Any grade of iron will rough satisfactorily. But for finishing work, tools made of a very close grain iron are necessary.

AOCO finishing emery is exceedingly fine, each little particle averaging only .01 mm. in diameter. If the iron of the tool is too porous, these fine particles of emery sink into the pores, and there is danger that the glass will come in contact with the metal. But if the iron is close grained, fine AOCO emery will cover its surface as it should, and will always interpose a film between the lens and the grinding tool.

The AOCO pays great attention to the iron used in manufacturing its grinding tools, securing what is by test best for the purpose of turning out best quality lenses. If you are not having particularly good success with your grinding, or if you need new

tools, order AOCO grinding tools of your jobbers. State whether wanted for index 1.507 or 1.523.

M35	Spherical tools, regular finish	Per pair, \$1.85
M36	" " smooth	" " 2.20
M39	Cylinder and Toric tools, 6.D base, regular finish	" " 2.20
M39	Cylinder and Toric tools, 3.D or 9.D base, regular finish	" " 3.15
M40	Cylinder and Toric tools, 6.D base, smooth finish	" " 2.80
M40	Cylinder and Toric tools, 3.D or 9.D base, smooth finish	" " 3.75

The Fits-U Luxe Writes Its Own Advertisements

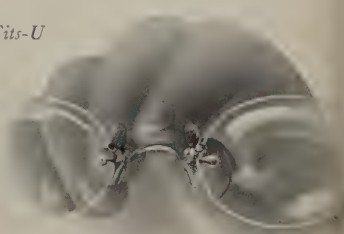
We know what it is to read advertisements, for we

(editorially speaking) have been doing it for a long, long time ourselves. "Oh, yes, the same old stuff," we are apt to say as we read a rehashed story written by the manufacturer about some sure-selling (perhaps) article. We suppose this might be termed an advertisement on the Fits-U Luxe, but it isn't, really. It is just a real-life story written by the eyeglass itself, in the form of a letter sent to us by the Mason Jewelry Company, "The Store of Quality," in Ionia, Michigan. We are reproducing it on this page.

If this were an honest-to-goodness

manufacturer's ad we should now sermonize for three paragraphs more, asking you about the Messrs. Barnes among your own customers, and urging you to send a huge order for the Fits-U Luxe to your jobber by special delivery. As it isn't, we leave you to draw your own conclusions and plan your course of action without any urging from us.

The Fits-U
Luxe.



"Answering your letter of July 21, I beg to say that it is agreeable to me to use the "kind words" we have written to you regarding your Fits-U Luxe eyeglass.

"This brings to mind an occurrence. The proprietor of the leading hotel here, Mr. Barnes, has purchased from us at least 4 different mountings in the last 18 months, and he is what is commonly known as a "kicker." One day he happened to come in when one of the — Co. travelers was showing his line. I called Mr. Barnes over and showed him the new Fits-U Luxe. An 0712 was an ideal fit.

"A few days later we put his lenses into the new mtg. We did not see Mr. Barnes again until this morning, though he used to come in at least once a week to have some minor changes made in his fingerpiece mtg. This morning he came in as stated, with a broken lens. Of course we were glad to see Mr. Barnes and asked him why we had not had the pleasure lately of his former frequent visits.

"He said, If you had sold me that Fits-U Luxe last year you would have had to miss me the whole year, unless I had broken a lens. I don't know I have on glasses.

"The above is only one of many whom we could write about, but Mr. Barnes' praise is fresh in our mind, being only about 5 hours old.

"We don't think but *we know* that the Fits-U Luxe, is, when properly fitted, the most comfortable fingerpiece mtg. of any on the market.

"You may use anything we have written or may write in favor of the Fits-U Luxe. Surely it deserves it."

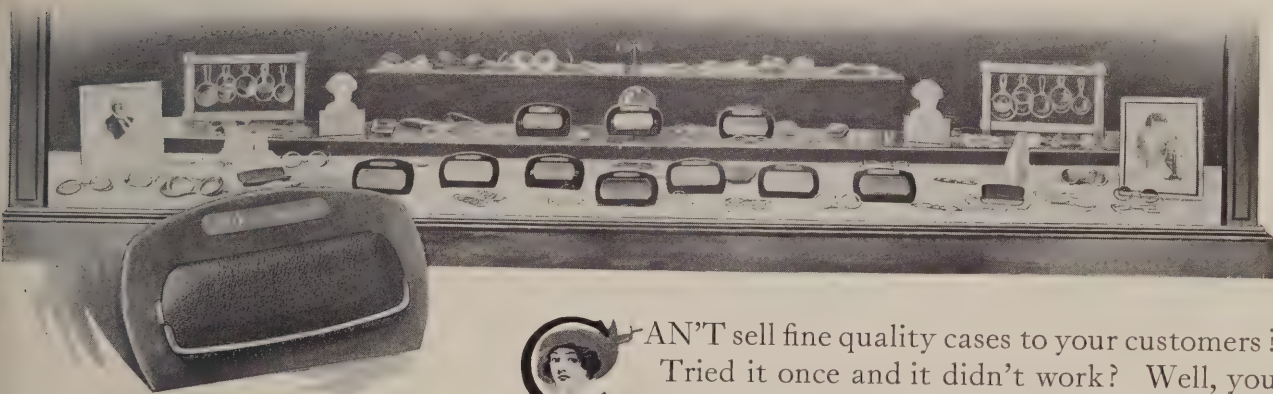
(Signed) Very truly,
MASON JEWELRY CO.,
Paul Stamson, Opt.



Ameptico

Ten Fine Quality Cases on Individual Display Pads Imprinted With Your Own Name

A Christmas Trade Winner



AN'T sell fine quality cases to your customers? Tried it once and it didn't work? Well, you surely *can* sell the AOCo best quality cases to your trade, for we have individualized them—given

them a pleasing personality of their own—by making up a combination set of ten of the best sellers and giving each a beautiful background against which it will be seen. *There* is the secret of success—individuality in selling a little out-of-the-ordinary article—and that is just what this set of cases has. You *can* sell them and make a mighty good profit, too.

Just what these cases are and what you can buy them of your jobber for is told further on. Each case comes to you mounted on a gracefully shaped soft, green silk velvet display pad, and right above the case, printed in gold, *is your own name*, as shown in the illustration. (Space makes it necessary to limit this imprint to twenty letters, including spaces, all to be printed on one line.)

These cases and display pads can be made the foundation for a wide variety of snappy show case and window displays that will not fail to attract more than usual attention.

Ordinary goods displayed in an ordinary way attract ordinary trade, both in quality and quantity. The optometrist and optician who makes a success today does so because he gets a little something that the "other fellow" hasn't got.

It is the pioneer who finds the gold mines. Be the optical pioneer of your town.

This set of ten superbly made cases mounted on the individualized display pads with your own name on each is a boost in the right direction. Order the set now of your jobber. Give him plenty of time to see that your name is imprinted on the pads.

A description of the cases comprising this display is as follows:

Cat. No.	Description
325-31-K6	Flat top genuine brown Morocco leather, silk velvet lining, gold-filled protection band on edge of cover. Spectacle size.
717-21-ZC7	Genuine seal skin, gray chamois lining, sterling silver protection band. Large eyeglass size.
325 V4C4	Flat top, genuine blue French Calf, blue chamois lining. Spectacle size.
328 PA1 Ox	Polished Aluminum, fancy engraved top oxidized black, black silk velvet lining. Spectacle size.
705X	Flat top, genuine lizard, black suede lining. Small fingerpiece size.
707X7	Genuine natural lizard, gray silk velvet lining. Small eyeglass size.
325 N3C3	Flat top, genuine green Morocco, long grain, green chamois lining. Spectacle size.
325 K2	Flat top, genuine wine-color Morocco, wine-color silk velvet lining. Spectacle size.
715 K4C4	Flat top genuine blue Morocco, blue chamois lining. Large fingerpiece size.
328 PA2	Polished Aluminum, gray silk velvet lining. Spectacle size.

Price for the complete set, on individual green velvet display pads with your name on each pad \$11.00

If ten seems too many for your particular needs, get a set of six, including: 325-31-K6, 717-21-ZC7, 328 PA1 Ox, 705X, 707X7, 715 K4C4.

Price for set of six, same description as above, \$8.00.

Price for set of ten display pads alone, with your own name imprinted on each: \$4.50.



NEW GOODS *for* LIVE DEALERS



The LokScrew Never Works Loose At Last a Screw that Locks

Another exclusive AOCo improvement: a screw that absolutely refuses to work loose. The LokScrew we call it, for that name describes just the way it acts.

You know how long attempts have been made to find a practical screw that would remain tight when once properly set. Inventions of all sorts have been made. But this one is the most practical and workable. We exhibited LokScrews at the recent convention in St. Louis and they created a great deal of favorable comment. They are so extremely simple and effective that their great advantages can hardly be appreciated until you examine them and test them out for yourself.

In the first place, the LokScrew can be applied to any strap. Note that point. It is not necessary to buy special mountings or bridges of any sort. It consists of a screw exactly similar to the regular AOCo glass screw. This screw engages a small split nut (see illustration) which resembles a very minute split chuck such as is used in a jeweler's lathe. This nut is tapped to fit the screw. On the outside it has a taper shoulder that fits into a countersink in the strap.

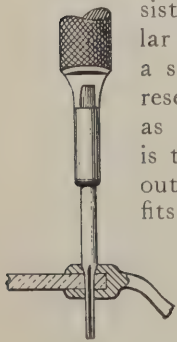


FIG. I



FIG. II

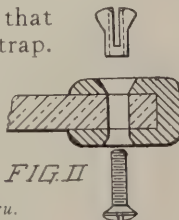


FIG. III

Fig. I. Reaming out hole for LokScrew.

Fig. II. LokScrew ready to be inserted.

Fig. III. LokScrew in position.

The nut is split as shown in the illustration, and when drawn down into the countersink by the screw, it is forced together and grips the screw. This makes a very effective lock.

The nut does not protrude above the strap and the entire device is just as inconspicuous as the simple screw would be.

The LokScrew is intended primarily as a repair screw to be used in replacing ordinary screws which have worked loose. It is furnished with a complete little outfit of tools to make it perfectly easy

to adjust properly. This outfit (see illustration) consists of a reamer, screw driver, file, and clamp for holding the nut in place while the screw is being inserted. All are neatly packed in a special box, with a bottle containing three dozen LokScrews complete.

You do not have to purchase any special machinery or make special shop arrangements in order to use the LokScrew. They come to you in the little cardboard box all complete. All you do is simply start using them. They

are guaranteed not to work loose, provided they are properly applied, and that is a very simple matter. Do it in this way:

First, remove the old screw, and countersink the threaded strap hole with reamer furnished, until LokScrew fits as shown in cut. If necessary enlarge the lens hole slightly with the file, so that the nut will be a loose fit. Insert the lens in strap, and place nut in position, slipping the clamp over it to hold it firmly. After a little practice this can readily be done without using the clamp. Next insert screw and tighten to the proper tension. LokScrew positively will not work loose.

It is all simple and easy. The results are quick and positive. Ask your jobber to send you the LokScrew outfit at once (Price, \$2.00) and try it out. Then when you see what an improvement it is you will be ready to send in further orders for LokScrews and nuts.

Be the progressive man willing to go to a little trouble to bring your work to the highest efficiency. Any one can follow the old, old rut. That's why there are so many in it. The exceptional man takes the trouble to push out of the rut. That's why he stays ahead.

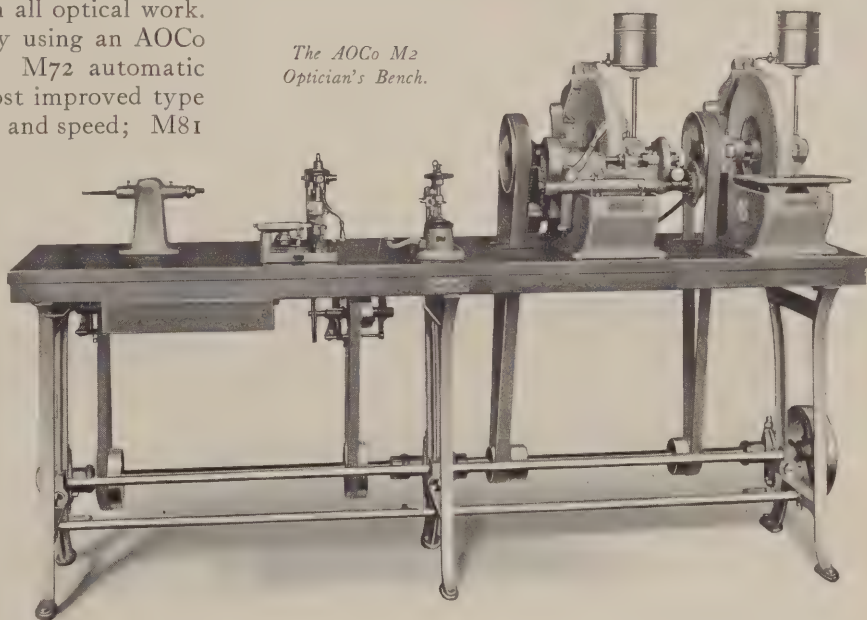


This complete outfit, including three dozen LokScrews, comes to you for \$2.00.

Why You Need the AOCo M2 Optician's Bench

Efficiency is the greatest need in all optical work. You can gain it most certainly by using an AOCo optician's bench. It consists of: M72 automatic edging machine, the latest and most improved type made, working with great accuracy and speed; M81 Hand Edging Machine, both complete with water can; M91 Automatic Drill, with new patented improvements; M51 Cutter; M131 Buffing Head. A one H. P. Motor can be supplied bolted under bench, if desired. As business increases, new machines may be added on same bench when necessary.

*The AOCo M2
Optician's Bench.*



Economy of money, time, and space are also extremely vital. All machines on the AOCo M2 Bench are built to withstand years of the hardest kind of service. All bearings are renewable in case of wear. Repair bills are made conspicuous by their absence. The great speed of operation of these machines can best be proved by actual use. Bench is only 25 inches wide, thus saving a large amount of valuable floor space. Usually 7 feet long, but may be varied slightly to meet individual needs at slightly increased cost.

Bench is shipped as a unit. Main shaft is mounted in self-aligning bearings.

You can get full details as to construction and operation of individual machines by writing to your jobber or to us. The outfit described above is merely one of many that can be made to meet your own personal wishes. We stand ready to assist, advise and equip you with prescription machinery of every description. We believe that by taking advantage of our earnest desire to coöperate with you to our mutual advantage that you can secure the most efficient, the most economical, and the most easy-to-operate equipment on the market.

Your jobber can supply the M2 bench and outfit shown here for \$375 F. O. B. Southbridge. This does not include motor.

Well, How About *Your* Zyloware Sales?

Reprinted by courtesy of N. Y. Sunday American.



Humor and Your Business Card

From Iowa comes the business card of an optician printed on a smooth-coated light blue-gray card. And in the upper right hand corner of the card, in red, appear the first two measures of the "Star Spangled Banner," musical cleff, words, and all. "Oh, say can you see" reads the first verse. A most ingenious inquiry for an optician to make, surely, but one nevertheless which seems to us rather badly misplaced, to say the least.

The purpose of a business card is to provide as dignified an introduction for yourself and your profession as possible. The addition of such plays upon words tend to cheapen not only your business but your personality as well.

We think it would be far better to avoid this sort of thing. What is your opinion?



Varsity Spectacles in 1/10 12K Gold-Filled

To meet the demand for a Varsity style spectacle that can be bought at a slightly lower cost than those made in 1/10 14K, we have designed the new model shown here, and are manufacturing it in 1/10 12K.

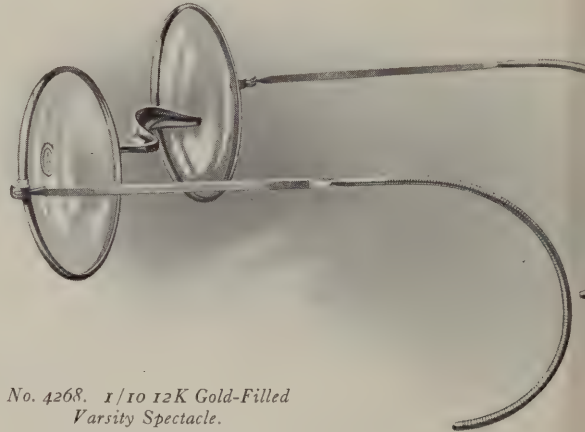
The word "Varsity" is always associated with first quality. If "Rudolph" or "Algernon" has gone to college and made the Varsity team, you know he excels in some certain kind of sport. That is just the point about AOCo Varsities. They sell because they are *superior*. They have the perfection of design, finish and color that makes them a little better than anything else.

Spectacles are merely spectacles to some men, "a great nuisance" that must be endured because of optical conditions they are designed to remedy. But others look at spectacles as an advantage, and make the most of it. They are the customers who take enough interest to buy some model that will add distinction to, rather than detract from, their personal appearance. They are the people who will buy Varsities.

Regular style eyeglasses and spectacles earn your living. Such goods as Varsities add the "velvet," buy the gasoline, pay for the summer cottages.

Our new style 1/10 12K gold-filled Varsity is made with 59, 62, or 65 P. D., and 40 mm. eye. Temples are half flat, half heavy comfort cable, smooth tip—a fine combination both from the standpoint of looks and comfort.

You have a choice of two bridge styles, either a 5 mm. wide flat bridge, which is supplied unless otherwise specified, or a 5 mm. wide cylinder bridge which will be supplied if specially ordered.



No. 4268. 1/10 12K Gold-Filled
Varsity Spectacle.

"Varsity" is the word this fall for increased business and new customers.

Just say AOCo Varsity No. 4268 to your jobber:

Cat. No.	Description	Per Dozen
4268	1/10 12K 5 mm. flat bridge, half flat half heavy c.c. smooth tip temples	\$14.00
	Same, with cylinder bridge	15.00

New Bench with Heavy Boiler Plate Top

A new bench with a 1/8-inch solid boiler plate top is the newest addition and improvement that you can buy in optical machinery equipment. It is made to hold the new M21 surface grinding machine we called to your attention in Amoptico recently; is just 25 inches wide, any length, and has all

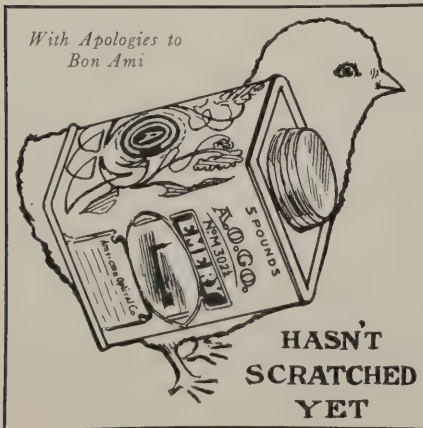
edges carefully rolled downward to leave a smooth finished appearance. "Aha," says some wise shop man, "we've got you now. Just as soon as we begin to work on an iron top bench it will

factory." No it won't, say we, for that probability has been foreseen and fully guarded against. Between the iron top and the legs is a hard wood cleat that deadens all vibration, and a leather washer has been placed under each bolt. Of course, if you take a five-pound hammer and start a course of exercises by thumping the plate, the resulting noise may not sound like a Schumann-Heink lullaby. But such actions are "de trop" anyway in a well conducted optical workshop. We find that owing to the greater rigidity of this bench it is very quiet in use.

The boiler plate top will, furthermore, never warp or crack. And there is no thin metal sheet over a wooden top (as some "metal top" benches are sometimes made) to become dented and cut, leaving ragged edges to collect dirt and cut your hands. When you wish to clean this AOCo bench, merely take a piece of oily waste and wipe it off.

Put the finishing touch to that AOCo M21 surfacing machine you will eventually buy, by placing it on the AOCo boiler plate top. Go the whole distance. "Anything worth doing at all—" etc.

M21 Surfacing Machines furnished on the new bench by your jobber at \$75.00 per spindle.



sound like 329 riveters going full tilt in a boiler



A Chain with a Beautiful New Link

A beautiful chain! That is the verdict of every man who examines the new chain we are just ready to sell you through your jobbers. It isn't merely a detail of finish changed, or a new method of attaching them to cards; it is the entirely new and original shape of the individual links that makes it so handsome.

As you look at it superficially you will notice it shines with an unusual brilliance of reflected light. This is not a "happencence;" it is the direct result of the peculiarly shaped link. The wire of each has a triangular cross section. Just like the facets on your best girl's diamond, these flat polished sides catch the light and reflect it in sparkling radiance. The chain is alive with light as you turn and twist it.

Each link is singly soldered.

We will guarantee that you never saw any chains so remarkably, unsnarlably fine as those with the new AOCo beveled link. They absolutely refuse to kink.

We are now making these chains 30 links to the inch in all styles: hairpin, hook, or earloop, in 12K gold-filled. Very soon we expect to have them in solid gold too, and we will let you know just as soon as they are ready.

On the hairpin styles you will find a new design pin that carries out the facet idea. It gives a lustrous brilliance not seen where plain round wire is used.

Your jobbers' prices for these chains, each with its own display card, are just the same as other 30 link to the inch chains with which you are all familiar. Their catalogue number is 364. Order them by that, and if you want the new hairpin style H17, add that designation making the specification:

Cat. No. 364H17.

Send in your order at once.

Zyloware Comfort Temples The Very Latest and Best

We announce the completion of another addition to our line of Zyloware goods. This time it is Zyloware comfort temples, the most up-to-date innovation on the market. They unite the real comfort of Zyloware with a snappy style that will make a hit with your customers. Combined with the AOCo Zyloware front No. R717 they form a beautiful article.

The illustration gives a good idea of the way in which they are made. One half the temple is of light or dark AOCo Zyloware, the other either gold, gold-filled or alumnico as desired. The butt is made to fit

the same endpieces as regular AOCo temples. That shown here is the patented AOCo invisible endpiece No. 1688, so shaped as to be fairly unno-



AOCo Zyloware Comfort Temple. Patent Pending.

ticeable from the front. Zylo comfort temples can be attached to any AOCo spectacle frame. Made 6, 6½ or 7 inches long.

Your jobber has these new AOCo Zyloware comfort temples or can get them for you on your order.

Cat. No.	Description	Per Dozen
1688	Zyloware Comfort Temples and ends complete 1/10 12K	\$5.90

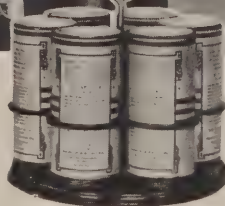
Recording Talk By the Mile

We don't count words any more—we measure them by inches, just like clerks at a linen counter, for we're dictaphoning our letters into twentieth century business Victrolas nowadays. This is a snap-shot of our stenographers, unreeling the lines of wit and wisdom that have been recorded on the revolving cylinders by the big business builders in the AOCo office.

The tune we most like to play on them is the one we direct to our many jobber friends and begins something like this: "Dear Sir: We thank you for your order —." We have another favorite, too that we start very often for our good optometrist and



optician Fits-U's, yourself, Here it splendid ordered hit with



friends who are using You can hum the tune for it makes us all happy. is: "Dear Sir: Isn't it that the AOCo goods you of your jobber made such a your customers. Indeed we

will be glad to send you advertising material, for we are always ready to stand behind any dealer who stands behind our goods. Your success is our success and your failure our loss. Do not hesitate to call on us at any time for further advertising advice or counsel. Yours very truly, American Optical Company."

Your Opportunity to Win Big Cash Prizes in The Rice Leaders of the World Association Contests

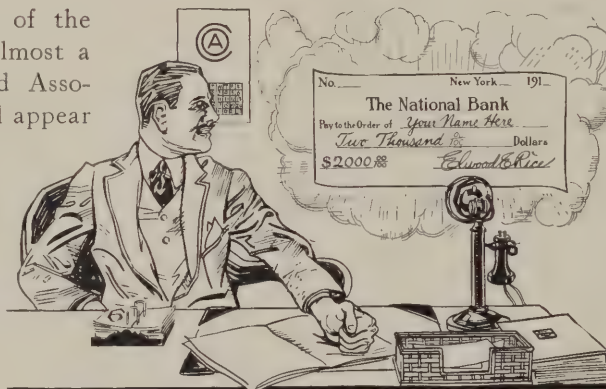
The October tenth issue of the *Saturday Evening Post* is almost a Rice Leaders of the World Association Number. In it will appear two large advertisements: one a double page display featuring the Window Dressing and the Idea Letter Contests; the other explaining still further just what the Association is, and the inspiration of honest business behind it.

Following these advertisements, in the November magazines, the American Optical Company will fire the first gun of its own national advertising campaign.

You who handle AOCo goods, now sold under the Association emblem, have a wonderful advertising opportunity right now. It is your chance to associate your business with this emblem and profit by the prestige it carries. Its use just at this time, immediately after the unprecedented display in the *Saturday Evening Post* and other magazines will stamp your store indelibly in the minds of your possible customers as one doing business under the principles of Honor, Quality, Strength, and Service for which the Association stands.

The Window Dressing Contest is now in full swing. Hundreds of enterprising AOCo dealers have already notified us that they are going to enter, and have

written to the Rice Leaders of the World Association, 358 5th Ave-



nue, New York City, asking for one of the beautiful, large banners that must be placed in all windows decorated for the contest.

Everyone who enters will get a beautiful album containing de Luxe photographs of the prize-winning displays. Many will get the cash prizes, amounting to \$15,000, which are being offered.

Some one will win the first

prize of \$2,000 in cash.

Will it be you?

There is no better time than the present to start capitalizing the Leaders of the World Association. Write today to the Association for the banner and complete rules for the contest.

These are the points which will be taken into consideration when the final awards for the prize-winning window displays are made:

First—Their power to attract attention to the window.

Second—Their power to create a desire for the goods displayed; result, sales.

The man who tries may get there. The man who never tries never will. Change the "If I thought I could" into "I know I can." That's where success lies.

Don't Forget

To buy the October 10th issue of the *Saturday Evening Post* and look for the Rice Leaders of the World Association Emblem. Its use there will convey some idea of its importance and prove the value of associating your own business with it by selling American Optical Company goods.





Amoptico

Reg. in U. S. Pat. Off.

Vol. III October, 1914 No. 7

Published Monthly by
American Optical Company
1833-1914

Channing M. Wells Albert B. Wells
President Treasurer
J. Cheney Wells
Vice-President and Secretary
General Offices and Works
Southbridge, Massachusetts, U. S. A.



New York 15 Maiden Lane
Chicago 122 S. Michigan Boulevard
San Francisco 140 Geary Street
European Agency,
American Optical Company, Limited
39 Hatton Garden, London, E C
Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers
Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.
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THIS month our editorial page makes a bit of a change in character. The editors of AMOPTICO have felt for some time that the editorial pages we have run in the past were not really doing as much good as they might. And another thing, too: we want you to read some of the letters that are coming in to us every day from dealers all over the world. For the things these men who write the letters say are taken directly from experiences that have a close resemblance to your own, in a business sense. So in passing along what they say, we hope to help by giving you the benefit of what they have discovered. Of course everyone has to learn most things for himself. If your father had been able to start you in life with the same fund of information he had already acquired it would have saved you many a hard knock. But many things can be learned from others without having to experience them yourself.

We are going to publish letters and parts of letters here that may help out a bit by showing what other men are finding out. If you find them interesting, tell us so. Let us know a few of your own opinions on matters related to AOCO goods, whether they came in the form of bricksbats or bouquets. Send us a photo of your store window. We will try to make this the liveliest page in AMOPTICO—with your help.

A Good Use of AOCO National Advertising

WE received an interesting letter from J. Poslusny, of Chicago, not long ago, wherein he tells of a novel way in which he has used AOCO National Advertising. This is what he says:

“When patrons want something besides AOCO goods I take out the *Saturday Evening Post*, show them your ad, and then say that the firm that makes the Fits-U is the largest optical firm in the world. On top of that I show how much confidence I have in the Fits-U by telling them that if it is not satisfactory I will refund the money. (This I never have to do.)”

When the AOCO national advertising commences again in November this use for it will be well to keep in mind.

Our correspondent also adds: “The Fits-U Luxe pleases me to the utmost, and I believe it is the best mounting on the market.”

We are glad the Fits-U Luxe has made good here, and we know it will make good everywhere else, too.

A Cure for Sick Business

WE received, just the other day from New South Wales, a letter from an optometrist who says that his annual turn-over is only about two thousand dollars (\$2,000). He asks graphically, “Got any cure for it?”

Yes, we think we have a cure for it, in the form of the A. O. Company's Dealer Service, and the reason we think so is that so many of our optometrist and optician friends who are using it, have written in voluntarily, to tell us how beneficial it has been to their businesses. For example, here are some:—The first from Doctor Alfred M. Witham, of Ontario. He says:—

“I want to thank you for your kindly help. Your electrotypes and picture slides draw great results, due to the fact that A. O. Company goods are so extensively advertised in the leading magazines, it is no trick at all to sell the best at the best prices. I find attractive blotters to be very effective advertising.”

Our helps have been used to advantage by Mr. Charles Schwartz, of Seattle, Washington, also. He recently wrote us as follows:—

Amoptico

“This is to notify you that some time ago I received a consignment of your latest blotters, which came at an opportune time, as I had used up all the former ones to great advantage. It has been a great pleasure to receive such aid from you, and I want to say that it has been an inspiration to push your goods, not because of receiving matter gratis, but because of the quality and standard which you keep up in the manufacture of such articles.”

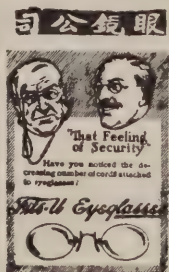
Mr. Schwartz touches upon two reasons for good business there; the first and most important being good Goods, the second being Good Advertising.

From Canton, Pa., Mr. Howard T. Bullock writes us, saying that the electrotypes and slides we have sent him have proved very good business getters.

Such letters as these give us concrete evidence that A. O. Company Advertising Service can be used to advantage. We think our New South Wales friend can use it and, for that matter, any other optometrist or optician who is not satisfied with the way his business is growing.

Fits-U's in Pagoda-Land

The home of the dragon flag is rapidly acquiring the Fits-U habit in preference to the old style tortoise shell specs which have been all the rage for thousands of years more or less. Probably the premium on tortoise shell will diminish, but we know the noses of the Empire will thank us.



本公司自運英美德法各國名廠眼鏡
地址：天津法租界四十四號
電話：四百七十六號
本公司謹啓



"Here's a peculiar thing," says Crawford. "We handle a large-sized fortune in cash every year in our accounting department, but never a penny passes through our hands. That is not an attempt to make a funny

remark. It is just a plain statement of fact. Five-cent coins are the smallest pieces of money we handle, for we find that to use pennies in our payroll means a distinct money loss to the Company, owing to their weight and bulk as compared to their value."

Imagine the amount of work on the AOCo payroll necessary to make such a statement true. Most of the manufacturing of the Company is on a piece-work or bonus system. That means that the exact amount of work done by every man and woman working on a piece rate must be known immediately and absolutely. Otherwise there would be nothing to prevent grave errors in pay, which would work greatly to the disadvantage of the employees or the Company. Reports are received daily from every department in the factory, on which are noted what individual workers have done. These reports are turned over to the payroll staff, many of them women who through long connection with the department have become wonderfully expert in handling them, and permanent records are made which can be totalled up at the end of the week so that payment may be made to the employees accordingly.

A remarkable system for handling the actual distribution of the tens of thousands of dollars in the AOCo weekly payroll has been built up. To show how it works, let us suppose that Mr. John Smith comes to us and is given work in the gold-filled department. The employment manager makes a report to the accounting department, saying that Smith has been hired to do a certain kind of work for which he is fitted, and that he will receive a certain wage. Immediately an addressograph plate is made out for John Smith and placed in a file with the plates of other employees. The file is used every week to imprint Smith's time card, rate card, pay envelope, etc., with his name. This safeguards his pay and safeguards the Company, for no money is paid out on the payroll except what is enclosed in the regularly imprinted envelopes.

Handling Thousands of Dollars Without Touching A Penny

Owing to the great number of persons to be paid each week, the work is done on three successive days. "Lensdale" workers

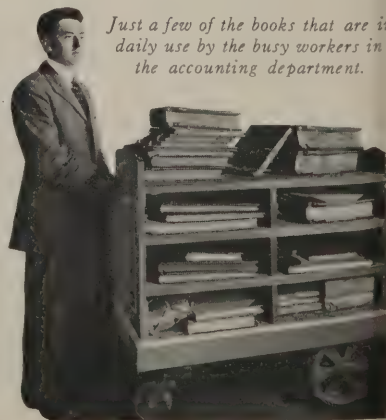
are paid on Monday, "Spec" shop (as the main building is familiarly called) workers on Tuesday, administrative and outside departments on Wednesday.

Early on Monday morning an AOCo automobile, carefully guarded, whizzes up to the bank, receives a supply of currency and comes swiftly back. The money is quickly transferred to the accounting department and is there divided into specific sums corresponding to the amount needed for the several departments. It is further divided into the exact denominations which will be required: the actual number of ten dollar bills, five dollar bills, half dollars, quarters, etc. All this has been calculated carefully in advance and the required amounts of each denomination received from the bank. Now the piles of money belonging to each department are divided into individual amounts, checked, placed in the pay envelopes and sealed. There is little chance for an error. If the money set aside for a certain department does not seem to be just right, it is immediately known that an error in counting has been made and the envelopes are examined again.

Members of the payroll department, accompanied by armed guards, take the envelopes, and passing from one room to another, distribute them. There is no standing in line or loss of time connected with receiving pay. Each man knows it will be brought to him at a certain time.

By the aid of electrical tabulating machines and other mechanical devices the work of the accounting department has been brought to the point where the great amount of statistics can be properly classified with a minimum of labor. A huge mass of figures of every description are turned into the department daily; for not only is the payroll work part of the routine, but there is the keeping of the manufacturing, purchasing, sale, and cost ledgers, all of them demanding the constant attention of highly trained employees.

Just a few of the books that are in daily use by the busy workers in the accounting department.



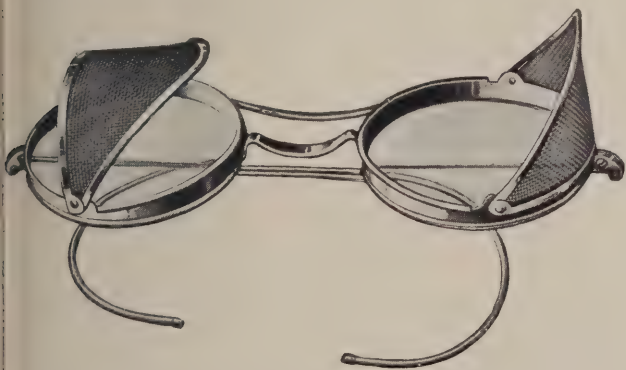


No other optical firm in the world has anything like the system that has been developed by the AOC_o for keeping account of the cost of manufacturing optical goods. Inter-departmental records are kept to show the movement of every order and each bit of stock throughout the factory. The proper debits and credits are daily made as this mass of costly materials moves about, and overhead charges are calculated with accuracy and certainty. As soon as a new mechanical process enables us to reduce the time consumed in any manufacturing operation, this fact is immediately reflected in the cost of doing work in that department.

The accounting department is the watch-dog of the AOC_o treasury, a silently working unit in a large organization that means better business and more efficient service throughout the entire plant.

Perfect Protection with the Saniglas

In our August and September issues we gave you some particulars about the Saniglas Eye Protector that so many industrial shops are now supplying to their workmen. Perhaps you may feel that such spectacles are somewhat out of your line, and you do not care to carry them. But if you live in a city or town where manufacturing is carried on, you have an opportunity to cash in on the widespread "Safety First" movement without departing from your regular line of business. Sell the Saniglas Protection Spectacle.



The Saniglas is not a goggle "adapted" for this work and called an "Eye Protector." It is designed especially for protective purposes. The glass used in lenses is peculiarly tough. In case of accident, chips fly away from the eye.

The white metal frame is made in six bridge sizes, with a $1\frac{7}{8}$ -inch eye. There are no leather parts to become soiled and prevent air circulation. It can be placed in boiling water and sterilized thoroughly without the slightest injury to either lenses or frame.

You can buy the Saniglas of your jobber, subject to cash discount of 2%, as follows:

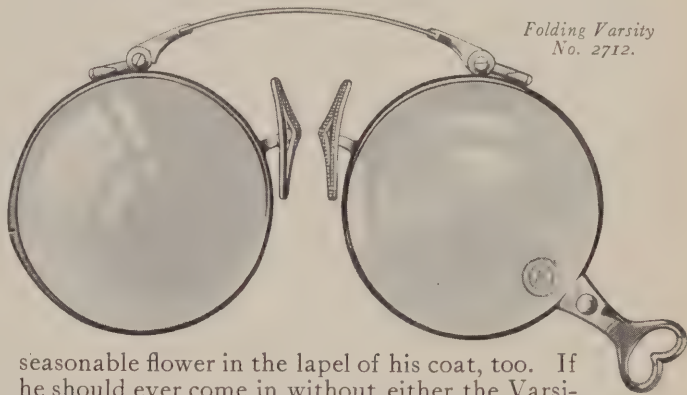
No. 3019, with screen, C.C. temples and cross bar . . . \$11.00

The Saniglas is used *exclusively* by many of the leading railroad systems and industrial plants all over the country.

Send in Your Holiday Orders for Varsities

There is a certain salesman who drops in to see us occasionally, who always flashes a pair of Varsity eyeglasses. He invariably has a carnation or other

*Folding Varsity
No. 2712.*



seasonable flower in the lapel of his coat, too. If he should ever come in without either the Varsities or carnation it would hardly seem natural. As it is, he carries quite an air of distinction. Keep your eyes open the next week or two and note how many people *you* see with Varsities. The call for them is steadily increasing, for they *do* impart that look of individuality that every careful dresser likes.

Unless you are located under very unfavorable conditions you can make money by pushing gold Varsities during the coming holiday season. Every sale of such goods carries a splendid profit.

In selecting the particular models, you can be safely governed by those which have proved to be the most popular. Take the No. 2712 for example, illustrated here.

It is one of the best selling Varsities on the market today. This is because, from your customers' viewpoint, it has so much style and is so perfectly designed and proportioned.

To use a slangy but very expressive term, it is "classy." The shape of the handle is graceful and in keeping with the size of the eyeglass. It folds like a perfectly designed little machine, with an accuracy almost watch-like.

From your own viewpoint as a dealer it has structural qualities that give you invaluable selling arguments. The spring is particularly stiff. When released, lenses immediately fly to the proper alignment. The catch is concealed in the handle.

The stiffness of the handle where it is soldered to the eyewire is particularly noticeable. No customers will have trouble through breakages at that point. A special AOC_o soldering process is responsible for this improvement.

As you know, the AOC_o makes all its own stock used in manufacturing gold and gold-filled goods. This results in an even quality and perfect coloring that cannot be duplicated elsewhere.

With AOC_o Varsities you have every imaginable talking point in your favor when selling them to a customer. And there is big money in every sale. Buy of your jobber, for the holiday trade.

Amoptico

Helping the Dealer

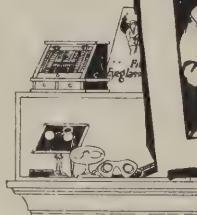


"The lens is the most important part of your glasses.

And yet few people know whether they are getting good lenses or bad. These were made by the American Optical Company, the oldest optical manufacturers in America and the largest in the world. If you always insist upon getting American Optical Company lenses you will be sure to have the best glasses obtainable."

Ask *your* oculist, optometrist or optician—he knows

AMERICAN OPTICAL COMPANY
Southbridge Massachusetts



At the time the people in your locality are reading this advertisement in their favorite magazine about November 20th

Why we're so careful

Because the lens is the most important part of your glasses our lenses are selected with the most especial care. We make sure of their perfection before we offer them to you. Our constant aim is to provide lenses and mountings that you may wear with becoming effect and uninterrupted comfort.

JOHN SMITH & CO.
217 Main Street



We Sell
American
Optical
Company's
Goods



Run this advertisement (AOC
electro No. A34)
in your local
newspaper

and put this
attractive card
No. 10W3 in your
store window.



The lenses are the most important parts of your glasses. We recommend AOCo Toric Lenses only



If you knew
what relief
Toric Fits-U
Eyeglasses
are to strain-
ed eyes you
would visit
us tomorrow

J.B. SMITH Optician
236 Main Street

—throw this slide on the screen
at the moving picture theatre

AOCo Lantern Slide No. 13



We Sell
American
Optical
Company's
Goods



Then the effect of *our* advertising is focused on *your* store or office and *our* goods will increase *your* profits.



Your Part in the December Advertising Campaign

When you tie up your advertisements in your newspapers and moving-picture shows and store window with our national magazine advertising you're tightening the hold on your trade, you're bound to profit.

The magazine readers in your locality, men, women and children, those prospects who for the most part either wear glasses now or should be wearing them, will see our advertisement as shown above in their December magazines. Immediately they will begin thinking about their eye needs. Then is the time for you to tell them through an ad in the local papers that your store is the place to satisfy their needs.

We will gladly supply you with electrotypes of the illustrated border of the newspaper advertisement shown on the opposite page. Your newspaper will set up the copy free of charge. The advertisement takes up only four and one-half inches of space but it will gain attention in any paper, drive home the message that the magazines carried and send customers straight to your store. Our first December magazine ad will appear on or about November 20th and if you mean to make the most of the buying instinct that ad will arouse, send for the electrotypes *now*.

The best results come from a change of copy at least once a week during the month. If you begin with the copy shown in the illustration here are three suggestions for additional copy:

Looking Both Ways

Two things govern the selection of lenses and mountings for the glasses which we offer you. There's the way you look in them and there's the way you look through them. Our aim is to see that both ways are satisfactory to you.

JOHN SMITH & Co.

217 Main St.

Our Part in Your Eye Comfort

To the wearer of glasses the best lenses and mountings are those he doesn't have to think about. Our customers never think about their glasses once they leave our store. We've done the thinking for them.

JOHN SMITH & Co.

217 Main St.

Our Belief

Our belief that glasses can be worn with becoming effect at the same time that they give perfect comfort is what governs our selection of lenses and mountings. Will you test that belief?

JOHN SMITH & Co.

217 Main St.

With each cut we supply these changes of copy, providing a range of choice from which you can surely find just what you desire.

The window card shown opposite is another effective presentation of the same message.

Finally we will send you the new December lantern slide for use in moving picture houses where so many of your prospects are found. We suggest that you stipulate that this slide be shown towards the end of the performance as any latent defects of vision that should be cared for are sure to make themselves felt after a period of watching the films flicker by.

Remember that only by working shoulder to shoulder in this profitable publicity can we obtain results and that the time to write us what you will need for December is the moment that you've read this.

Peterboro, N. H.

"I use your mountings and find them the best I can get. I have tried everything."

F. A. Towle.

Pulling for Business Among Parents of School Children

The complete advertising campaign which we laid out to procure added business from the parents of school children has proved to be a great success. We have sent out scores of window displays to all parts of the country, and everywhere they are making good.

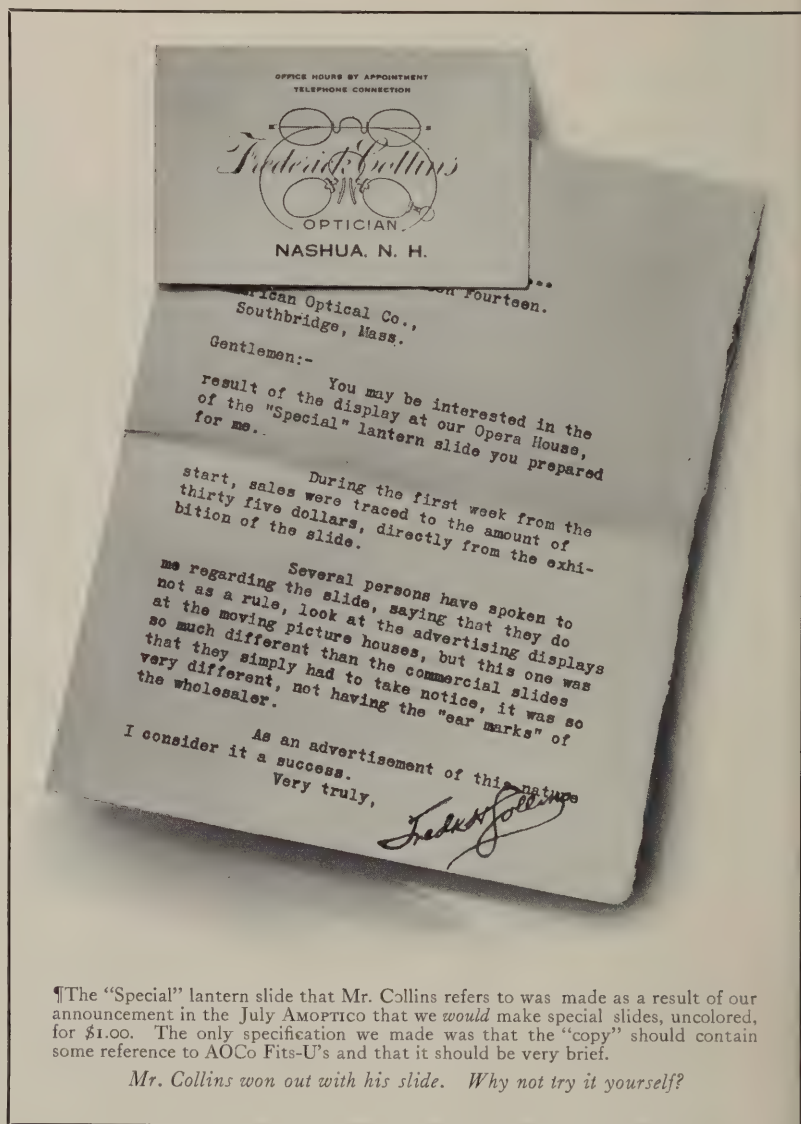
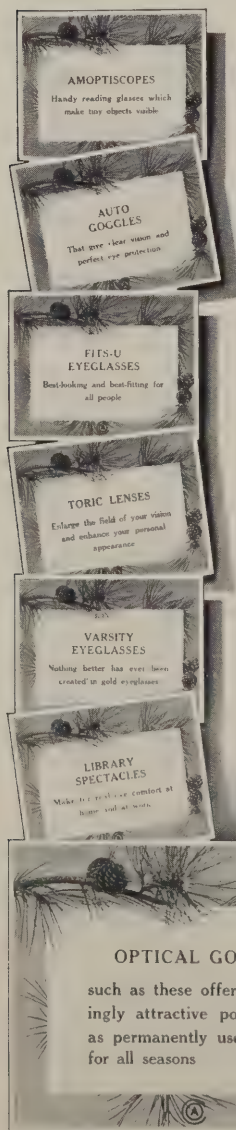
Some time ago we collected data based on actual investigations of eye conditions among school children and we learned that almost one in every four who attend the schools in our country are laboring under the disadvantage of poor eyesight. That is an astonishing state of affairs and very much to be regretted, but it opens a field for increased business to the optometrist and optician which so far has not been brought very strongly to the foreground. So we made this complete display consisting of seven large window cards with easel backs, printed up to look just like old-fashioned school slates, and on these we printed a message to the parents of school children, showing it in such a way that it appears just like hand writing on the surface of the slate. In addition we wrote a special circular calling the attention of parents to the need for examination of their children's eyes, and we prepared two new newspaper electrotypes following along the same idea. This window display, 250 circulars imprinted with your name and address, and the two new newspaper electrotypes can now be secured of us for \$1.50. It would be very much worth your while to send for this material, or if you prefer, ask us to send you the circular we have prepared, which illustrates and explains the whole campaign. As we said at first, a great many of our optometrist and optician friends have found it to be a great business getter. You will, too. Write today.

Time To Order This Christmas Window Display

Just to give the real Christmas atmosphere this page should be decorated with nice pretty pine branches and cones. The printer charges too much money, though, if we ask him to use brown and green ink all in one issue of AMOPTICO, so you must imagine the branches. But the Christmas Holiday season is drawing rapidly nearer, and those of you who have a keen eye for the business possibilities which this brings, will be interested in the specially prepared set of Window Cards appropriate for Holiday window decoration which we have prepared.

There are eight beautifully designed cards, printed in red and green, each five and one-half by seven inches in size, and in addition a larger card eleven by fourteen inches, to be used as the center of your display.

We are charging seventy-five cents (75c) a set for these cards, not because we know we can get it, but because we know they are worth that to you who use them.



It is hardly necessary to remind you that the competition in window dressing at Christmas time is more severe than at any other. You must work hard to keep your shop in evidence. Everything that can add a little motive power and push to your sales will be necessary to carry your message through the rushing race for Holiday trade.

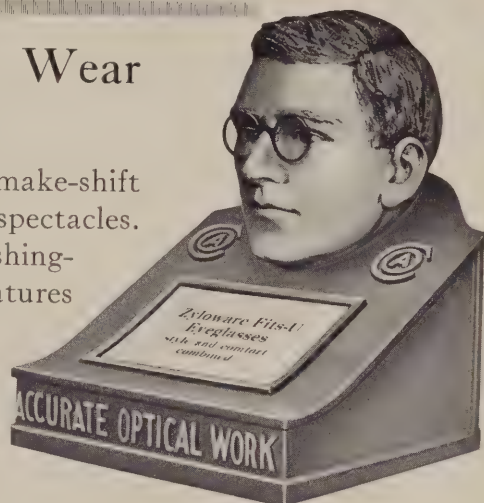
This Window Display is refined in taste coupled with a real selling value that will mean many sales to you, but the point is you will need it early in order to have it get in its effective work.

Packages of these sets are now already in our mailing room, merely waiting for your request to start them on their way to you. Just drop a line to your jobber now, saying that you want one. "The AOC's Winter Window Display" is what we call it: No. 17D2. He will be very glad to get it for you.



Do You Want a Life-Size Model to Wear Glasses in Your Window?

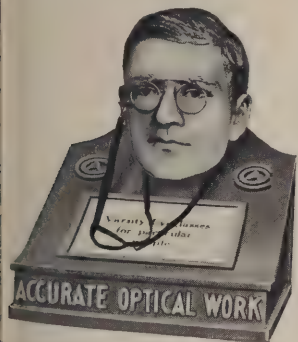
For years optometrists and opticians have used make-shift models of heads on which to place eyeglasses and spectacles. Almost everyone, from nameless beauties to George Washington and Benjamin Franklin have had busts of their features used as demonstrators. But these busts are naturally awkward and unsuited to the work. Long hair usually covers the ears, preventing the demonstration of riding bow spectacles, and the bridge of the nose must be scraped and reshaped to hold eyeglasses.



Model Man No. 17M30.

We have a new life-size, life-like model, made expressly

to provide a handsome window fixture and an adequate demonstrator for all styles of eyeglasses and spectacles. The face is strong and masculine, with strikingly clean-cut features. It is finished in a beautiful old ivory color, with shadows reflected in warm brown tones. The base is a rich, soft bronze-green, with the words "Accurate Optical Work" raised in relief and painted in gold along the front.



The proportions of the face are such that you can adjust almost any style of spectacle or eyeglass to it, and secure a perfect fit. Even a fingerpiece eyeglass or a

Varsity will stay firmly in place. (The one thing we will not guarantee Mr. Model to wear comfortably is a monocle. He has never acquired the art.)

Just below the face there is a panel, framed with a raised gold ribbon, in which may be put cards describing and advertising the particular style of

eyeglass, motor glass or spectacle you are displaying on the face.

A set of nine printed cards has been prepared to accompany every model, permitting the demonstration of Fits-U's, Motor Glasses, Zyloware Spectacles, Zyloware Fits-U's, Kryptoks, Fits-U Bearing Pads, Safety Bows, Fits-U Spectacles, and Varsitys.

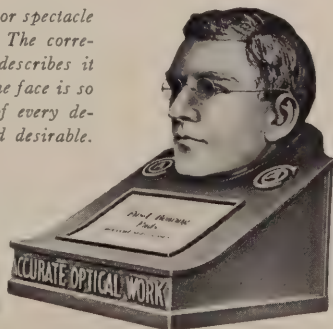
The completed model stands 16 inches high, is 13 inches wide and 14 inches deep. Packed ready for shipment it weighs approximately 45 pounds and the box is approximately 20 inches square.

This handsome life-size model, with a complete set of nine cards, can be obtained of your jobber for \$7.50 F. O. B. Southbridge. State whether you wish it sent by express or freight.

Send for one *now* and use it for your Autumn window displays. It is the most remarkable advertising and demonstrating fixture ever offered to the optical trade.

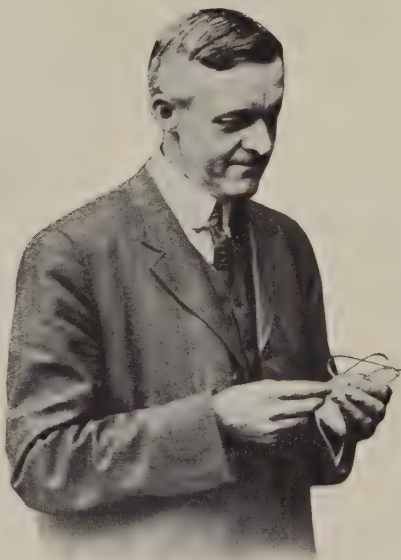
Don't do without it. Don't use a misfit cast not suited to the work. Send to your jobber *now* for the AOCo Model Man.

Put on any style of eyeglass or spectacle and it will stick securely. The corresponding card on the base describes it and tells its advantages. The face is so modeled that eyeglass-wear of every description looks attractive and desirable.



The beautiful bronze-green base will harmonize with any color scheme you like to use. It has a rich, solid substantial appearance. People will stop to look at it.





THE SUPERINTENDENT SAYS:

"I should like to have every oculist, optometrist, and optician realize on just what factors the quality of gold-filled goods depends. Each one of you *should* know in order to judge intelligently the value of the goods you buy.

"First, there is the question of gold-filled stock. The AOCo is the only manufacturer of optical goods to make the stock it uses. Years ago we bought it outside. But we found it was impossible to keep up to the AOCo quality standard when this was done. So we made it ourselves. Now we know exactly what we are getting. The stock follows a certain definite routine of manufacture that yields absolutely true and even results. It is this *uniformity* that insures quality.

"Equipment and tools used in manufacturing are vital factors in our success. No expense is spared to keep our machines at the highest point of efficiency. We maintain expensive special departments to see that this is done. The result is, we eliminate hand polishing, and secure a true, even finish, with the shell of gold uninjured and of its original thickness. AOCo gold-filled goods leave the factory with the full strength of the protecting shell ready to withstand severest service.

"Then there is the matter of patented processes, under which alone the best goods can be manufactured. We control patents covering certain mechanical, structural and electrical processes, some of them very recent, that give AOCo goods a stiffness, strength, finish and uniformity that cannot be duplicated.

"Finally there is the matter of a definite standard to be considered. Assays of AOCo gold-filled stock are constantly being carried on in our laboratories to make certain that it is up to the AOCo quality standard. We know the exact quality of our stock. We send out AOCo gold-filled goods with an absolute guarantee that they will assay as marked. What more could anyone expect?

"The manufacturing of stock, equipment and tools, patented processes and a definite uniform standard determine gold-filled quality.

"If you will tell your jobber that you want only AOCo gold-filled goods, you will get the stiffest, strongest, most uniform, best designed and *highest quality* line on the market."



DEFINITE
STANDARD

PATENTED
PROCESSES

EQUIPMENT AND
TOOLS

MANUFACTURE OF
STOCK

Geo. H. Day

A m o p t i c o

Published by the American Optical Company
at Southbridge Massachusetts

Vol. 3

November 1914

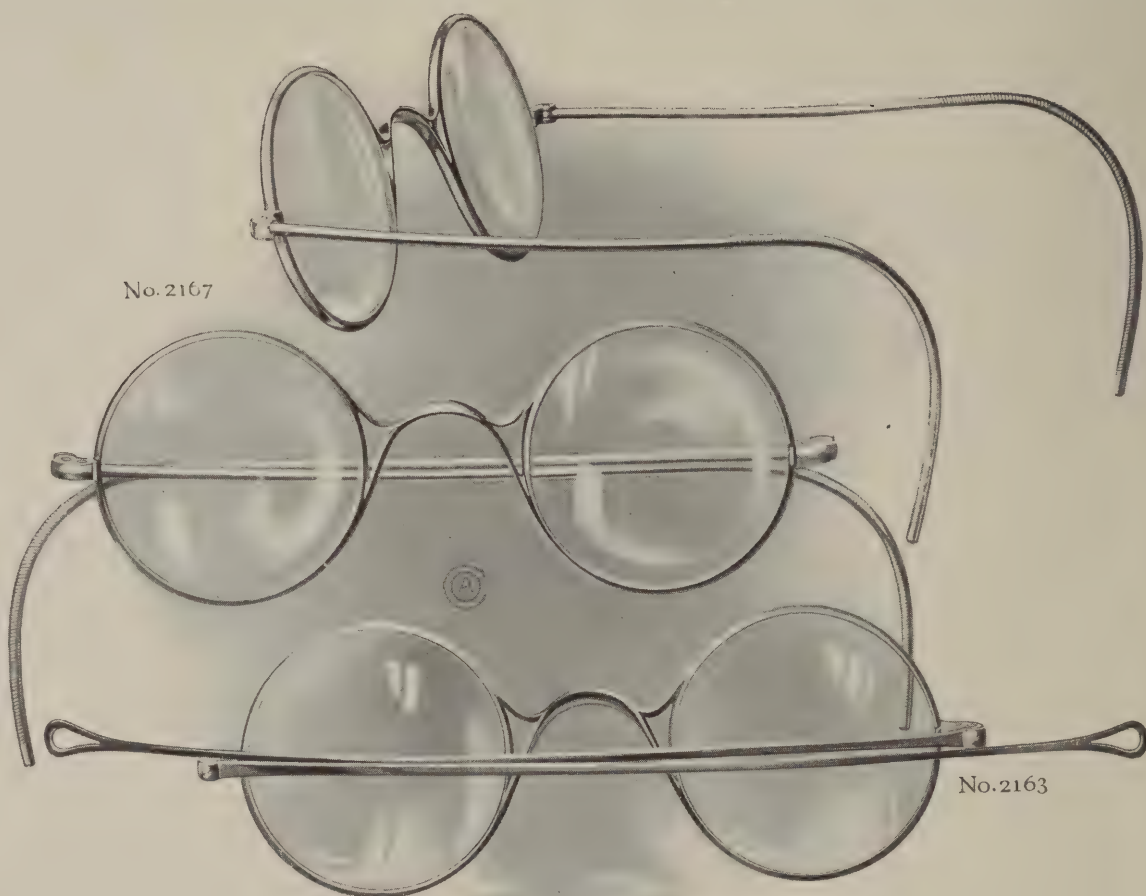
No. VIII

"Safety First" in Lenses



The scientific problems involved in modern ophthalmic lens making frequently necessitate patient experiment and research. These, in turn, call for technical skill, special mechanical ability, and long lens experience, which qualifications are combined in the highest degree in the AOCo technical staff of lens experts, who devote their time and attention to ophthalmic lens problems only. Results are reflected in AOCo Quality Centex Lenses.

Start every pair of glasses *safely* with AOCo Quality
in lenses, as well as in frames
and mountings



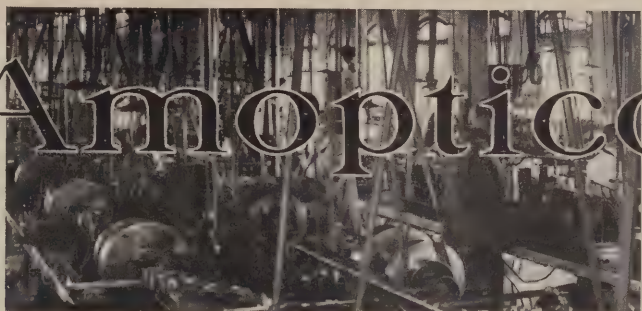
14-K Solid Gold Varsities for Christmas Trade

There is no other line of optical goods on the market that competes with AOCO 14K gold and silver Varsity spectacles for sheer solid worth of material, design and finish. Every piece of metal used must be perfect. Each joint must be as beautiful an example of craftsmanship as can be made.

These Varsity goods bring liberal profits and the most desirable class of permanent customers. Plan now to "sell them" by ordering these goods of your jobber in time for Christmas trade.

VARSITY SPECTACLES, 14K GOLD

Cat. No.	Gold	Silver	Description	Size	Price Each Gold	Price Each Silver
2167	3167		Heavy half riding frames, comfort cable, smooth tip, 741 endpiece.	{ 40 mm. 42 mm. 44 mm.	{ \$20.00 21.00 22.00	\$12.00
2197			Heavy half riding frames, comfort cable, smooth tip, shell style endpiece	{ 40 mm. 42 mm. 44 mm.	{ 22.00 22.75 23.50	12.50
2162	3162		Straight temple frames, open tip, round temple	{ 40 mm. 42 mm. 44 mm.	{ 16.00 16.75 17.50	7.50
2163	3163		Straight temple frames, open tip, half round temple	{ 40 mm. 42 mm. 44 mm.	{ 16.00 16.75 17.50	7.50
						8.00



Acoptico



How the Reducing Process Has Revolutionized Temple Making

WHIR-R-R-R-R! Whir-r-r-r! Rumblety rumble! The door before you opens and you step into a Dantesque Inferno of sound that fairly forces your words back into the region of your Adam's apple. You are in the ACo Reducing Room, looking out over rows of iron benches, every one covered with what from the sound seem to be miniature blacksmith shops. Each little shop is holding a piece of wire in its iron teeth and hammering it thousands of times while the second hand on your watch makes just one journey. Each blow is a base hit, too. It never misses. "Ty" Cobb or "Honus" Wagner in his deadliest batting trim might well turn green with envy to watch the tireless accuracy of the little hammers, pounding a stubby piece of wire into a sure-enough ACo temple.

"'Twas not like this in the olden days," as the time-worn song hath it, however. Time was when temples were the result of tedious hand toil; when a piece of metal was "blanked out" to the proper length by a foot press, and this blank shaped, filed, smoothed, and bent to form by hand. Sheets of gold or steel were fed under the press and a thin square of metal just the length of a temple with a wider, flat tip was cut out. The piece was then seized by hand pliers, laid lengthwise on a wooden block and revolved by hand, a file being applied vigorously with the other hand. When the corners of the square had been removed and the temple was as smooth and round as the skill of the workman permitted, the pear tip had to be made by carefully hammering the flat metal into shape and filing where necessary.

The push of industry was unable to stand the strain of such a process for long. Busy business-booster cast about for a means of avoiding all this tedious hand work. The sight of so much good material being filed away and the knowledge that the cost of doing the work was holding prices on a

needlessly high level were too much. So they set to work to pull the cost down.

The result was success, of course. It always is when new processes are needed badly enough. What is called the "swaging" process was introduced; a method by which wire is hammered into shape between dies without removing any material or cutting the surface of the stock. It is this process that has made it possible to produce gold-filled temples. The old method by which stock had to be filed down by hand did not permit of making them. By the new method a short sawed-off stub of wire, (see Fig. 1), is taken and forced between hammering dies until it is $6\frac{1}{2}$ inches long (Fig. 2), and greatly reduced in diameter. The beauty of it is that the shell of gold protecting the base metal is entirely uninjured and spreads itself in a perfectly even sheet over the temple without a break.

The "swaging" process has another result that might be expected. The future temple gets its temper up because of such terrific hammering, and becomes hard-hearted; in fact, it is given just the necessary hardness and springiness required. But, like all the rest of us, temples can stand only a certain amount of hammering, so great care must be taken not to overwork the metal. Each kind of metal has its own peculiar properties requiring different treatment; and we hope you will pardon us if we modestly and blushing remark that because we *do* make all our own stock (being the only optical manufacturers who do), and make so much of it, we are peculiarly fitted and able to make it more perfectly for optical purposes than anyone else. We adapt our alloys exactly to the strains and stresses they will be called upon to undergo. Quite naturally, ACo temples wear better than others.

This process is also used in making studs and other irregularly-shaped eyeglass parts. A special



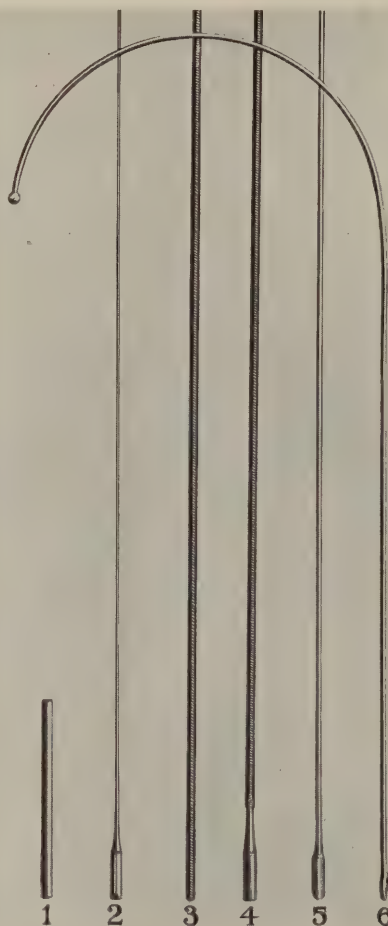
form of "reducing machine" is used in this work and in order to stand the extreme strain of forming these shapes a special metal alloy is used. More blushes of modesty here—the equipment of our stock department enables us to produce the various metal alloys needed to meet these special requirements. That, "Oh, best beloved," as Kipling would say, is why they wear so well.

The most interesting process is the manufacture of cable temples. Follow it through with us and see how it is done.

Gold-filled wire in a large coil, goes to a straightening machine where all its wiggles and twists are removed. Then it is carried to an automatic machine (one of the young "blacksmith shops" mentioned above) and is fed through rapidly revolving dies that strike it thousands of blows a minute, reducing it to a proper diameter. This, of course, stretches the wire, only one inch being required to make a six and one-half inch temple. (Fig. 1.) The action of the machine then withdraws the wire, having enough of the original thickness of stock to form the joint of the temple later. This completes what is called the core. (See Fig. 2.)

While this is being done a whirling dervish of a machine is turning out cable springs. Several spools of very small diameter wire revolve with great rapidity around a central point in such a way that the wires are wound into a hollow spring. These springs (Fig. 3) after being cut to the required length are pushed on over the central core. (Fig. 4.)

Now the temples must go back again to the reducing machines and be carried through reducing dies as before, until the spring is hammered down perfectly smooth, giving the appearance of a solid wire. (Fig. 5.) Forming the joint comes next; done by a series of four hammering operations designed to form, trim, and pierce the necessary hole. (Fig. 6.) Special dies have to be used in order to do the shaping work without destroying the gold covering.



Steps in Cable Temple Making.

The temple must next be cut to length and the end prepared to receive the tip. Imagine a tiny gold cup, just large enough to fit the temple end, drawn up from a piece of sheet gold-filled stock, and you get some idea of what the cable temple ball tip really is. It is fitted over the end of the temple and rolled between dies to fasten it securely. When this process is complete it only remains to polish, true, and curl each temple.

The general work of manufacturing temples is similar in all factories, but the exclusive methods, the patented processes, the perfection of equipment account for the niceties of construction, in which the AOCo excels.

Correction Concerning AOCo M82 Hand Edger

In our August issue of AMOPTICO we announced the completion of a new hand edging machine, a quick-working, handily-managed edger, the price of which was \$45.00. Through a typographical error the catalogue number of this new machine was made to read "M81," when it should have been "M82."

When you wish to inquire about the new AOCo Hand Edger, use its number, "M82." Your jobber can give you a description of its many advantages.

Change in Shape of No. 715 Case

You are all familiar with the beautiful shape of our number 715 flat-top case and know how splendidly proportioned it is. As fine as it has been, however, we have made a change in the lower form or pocket which we believe makes it still more admirable both from the standpoint of looks and utility.

With the new form, our No. 715 case will take a larger fingerpiece eyeglass than any similar case on the market; yet its thinner ends and mid-section give it the appearance of being even smaller than before.

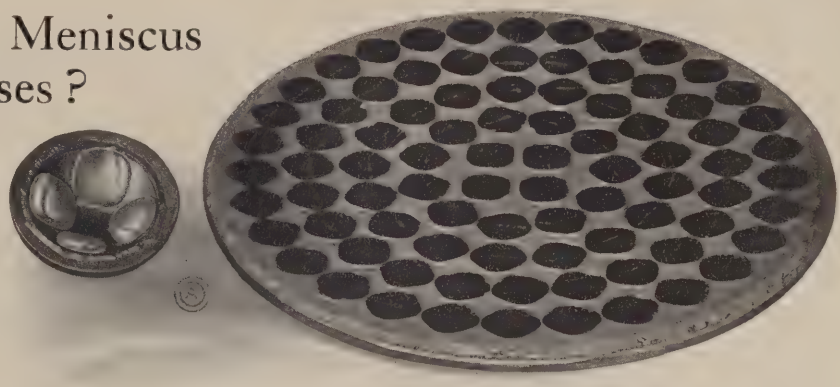
The No. 715 Case has the AOCo patented spring. A picture of the new style may be seen on page 6 of this issue.

Why Pay More for Meniscus and Toric Lenses?

A great many questions are asked by wearers as to why there should be so great a difference between the cost of flat, and meniscus or toric lenses. Optometrists generally are familiar with the reason, but many are unable to explain it clearly. When a customer asks you, tell them that it is entirely due to the larger cost of producing them.

Just to explain how this occurs we are reproducing a photograph of two lens blocks such as we exhibited at the St. Louis Convention. The larger of these blocks contains 94 flat sphero cylinder lenses, the combination being -1 sph.-2 cyl. The smaller block contains only 4 lenses with the same combination in 6 base toric form. In other words, 94 flat lenses are being ground on one block at once, and only 4 torics.

No arguments are necessary to show how much more expensive the grinding of torics is, in view of this fact. Because of the strong curves of meniscus and toric lenses great care is required in sticking blanks on to the block so that they will grind free from prism. It is also essential to watch the grinding tool closely to prevent its wearing out of shape. If it does this, the lenses will grind off focus. To explain: suppose the grinding tool wears slightly flat. The outside edge of each lens will be ground too

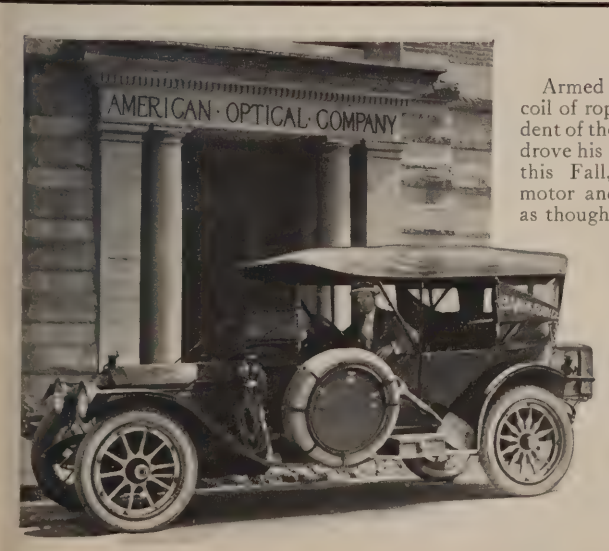


thin, whereas if the block is allowed to wear strong, the opposite effect will result. In either case all the lenses would be inaccurate and therefore useless. This tendency is of course much less pronounced on flat lenses and can be more easily guarded against.

The strong curves also render meniscus or toric lenses much more liable to breakage than are the flat forms. For this reason the per cent of breakage is bound to be larger. The loss from decentration is also greater in the curved forms of lenses.

In the case of flat lenses, therefore, we have a large number of lenses easy to grind. In the other, we have comparatively few lenses very difficult to grind accurately and liable to be spoiled by cracking, decentration, incorrect focus, or grinding prismatic, etc.

This is the reason the wearer has to pay more for meniscus and toric lenses. We know they will see that the reason is quite adequate, too, when clearly explained, and agree that the superior advantages of this form of lens more than warrant the difference in price.



Through Darkest America

Armed with an axe, a shovel, and a coil of rope, Elwood E. Riggs, President of the Omaha Optical Company, drove his Packard Six up to our door this Fall, said "Whoa!" to the motor and stepped out as jauntily as though he had just come in from a short afternoon spin instead of from far off San Francisco. Mr. Riggs drove his rig clear across the American continent, and since his letter given below was written, he has driven back to Omaha again.

Some trip? This is what he wrote us about it:

"Words are inadequate to convey the actual impressions of a trip across the American continent in

a motor car. The Eastern half of the journey is enjoyable over improved roads almost the entire distance, but the real interest begins at Cheyenne, Wyoming and is one succession of surprises. One hour you are traveling through the rolling hills, the next hour topping some high mountain peak, then down into the valley, and through innumerable box canyons. One minute you are rolling over roads that are equal to park boulevards, the next you are wallowing through sage brush, alkali flats, over sand dunes, dry creek beds, fording rivers, and bridging washouts. One day you are stuck fast in some sand pocket, and the next in the mud from an irrigation ditch or an "adobe bed." You meet every combination that stands for hard motoring, yet the experience is delightful."



A Capital Case for Customers



AOCO Spectacle Case No. 325 G.

Modern business men have discovered one valuable merchandising principle: it takes a handsome "exterior" to make customers buy useful "interiors" in which to house their glasses.

If you put an eyeglass or spectacle in a badly shaped, roughly finished, warped-cover case, the customer who receives it is bound to think less of your methods of doing business.

AOCO flat-top G leather cases, such as shown here, will prove valuable investments in satisfaction. Your customers will appreciate their wear and carefully finished appearance.

No. 325 G leather case will hold spectacles; No. 705 G is for medium size eyeglasses; No. 715 G is for larger size eyeglasses.

Each case has the AOCO snap cover, is lined with velvet and finished with the greatest of care by our highly trained experts. Order of your jobber.

"We are now in receipt of your new catalogue and hasten to congratulate you on the excellence of this work, which we are sure we will find invaluable."—Carl Werner, Melbourne, Aus.

Raising Your Profits and Increasing Your Fits-U Sales

We are strong believers in best-quality goods, just as you are. But we know you find that a great many people are unwilling to pay for solid gold eyeglasses, so you are forced to sell filled grades. It is shortsighted for any salesman to argue a customer into purchasing an article that is beyond his means, for it is too apt to lead to his dissatisfaction and a feeling of resentment against the man who urged him to such an action. But coming down to bed rock, how many of your customers do you suppose buy a 1/10 12K frame instead of a 1/10 14K because they really cannot afford the better grade, or ask for 1/10 14K because the price on 14K solid goods is so much

the better wearing qualities of more expensive grades. So they mentally figure: "Well, guess the cheap grade will look just as expensive as the solid gold and the construction is just about the same, anyway. I'll save my money and get the gold-filled one." And unless you are right up-and-coming on your salesman's job he gets away with that mental argument and keeps his coin.

There is no reason why the standard for optical "filled" goods should be below the jewelry standard. There is no good reason why you should not sell a much larger percentage when the brisk Christmas buying is on, with everyone in a "spending" holiday frame of mind.

The test of salesmanship is to make your customer see, just as you do yourself, that it is to his interest to buy the best eyeglass on the market; to make him see that it is policy not to buy the cheap grades, for they are really the most expensive.

14K Solid Gold Fits-U eyeglasses can be bought of your regular jobber for \$24.50 per dozen. You are familiar of course with their construction: with the Ovalex spring that



Show your salesmanship by convincing your customer that your "quality" point of view is the correct one.

wears so remarkably and is so inconspicuous; with the short P. D.; the A-O Loop; and the patented A-O Washer providing a bearing surface for guard arms that prevents them from working loose and wobbling; and with the stiffened bridge. You know what a beautiful example of workmanship each eyeglass is, with every joint a work of art. It only remains to order them of your jobber and bring them to the attention of your customers when they begin to talk gold-filled goods and prices.

Here is the description of the most popular rocking pad style:



AOCO Fits-U (Ovalex Spring) No. 03112.

higher? Most of the reason is because, to the uninitiated, all gold-filled and gold goods look practically identical, and they do not appreciate the advantage of

Cat. No.	Description	Quality	Price Per Dozen
03112	Mountings complete, coil or Ovalex Spring	10K Solid Gold	\$16.50
		14K Solid Gold	24.50

Fingerpiece Eyeglasses with Extension Posts for the "Once in Awhile" Patient

The fitting of an eyeglass to the patient whose features are such that the eyes are not equi-distant from the bridge of the nose, and still centering the

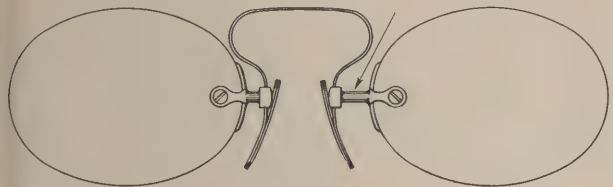


Fig. 1.

lenses, can seldom be accomplished with mountings regularly furnished unless, of course, the difference is very slight.

To overcome this with the bow spring eyeglass, the AMERICAN OPTICAL COMPANY has always made eyeglass studs with posts of varying lengths, and with these it has been quite a simple matter to gain the additional width by replacing one of these studs by one of sufficient length to give the required distance from nose to centre of eye. (See Figure 1.)

With the coming of fingerpiece mountings with the rigid bridge a new problem was confronted, as with



Fig. 2.

this type bridge and strap were integral, although with the saddle bridge construction additional pupillary distance could be obtained in a measure by adjustment of the shanks. (See Figure 4.)

About the time of the introduction of the "C" bridge eyeglass, different designs of extension posts were brought out. The method that has been adopted as the most satisfactory form of extension post fingerpiece mounting is shown in Figure 2. This, you can see, is neat in appearance and offers



Fig. 3.

every advantage. Mountings are furnished with posts of both equal and unequal lengths.

When necessary, by a simple shop operation either side can be altered sufficiently to meet the patient's individual requirements.

Extension posts have another decided advantage; in that they can be used where small lenses are desired, at the same time obtaining an extra wide

pupillary distance and absolutely centering the lenses before the eyes.

Mountings with extension posts are regularly furnished in three sizes, with posts of equal lengths in millimeters as follows:

- B—1 mm. extension on each side over regular fingerpiece bridge.
- C—2 mm. " " " " " " " "
- D—3 mm. " " " " " " " "

In ordering, bear in mind that with a size B extension post you would obtain 2 mm. added width in pupillary distance; size C, 4 mm.; and D, 6 mm.

Mountings are also furnished with posts of unequal lengths when desired, it being necessary only to specify the required length of post on each side of the bridge.

These extension posts can be supplied on both inset and outset mountings with pin for spring anchor as shown in Figure 3.

Furthermore we are prepared to furnish mountings complete, excepting straps, the ends of the bridges being left long enough to form extended posts of whatever length, equal or unequal, may be required.



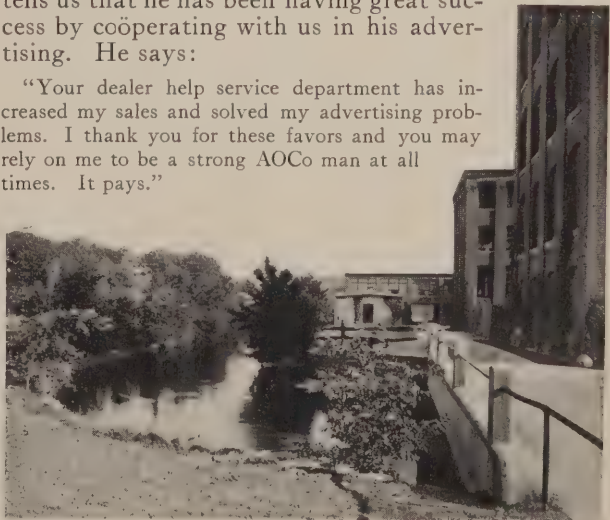
Fig. 4.

We have supplied mountings of this description for many years to fill the requirements of the prescription shop; thus facilitating the optician in making fingerpiece eyeglasses to exact measurement, requiring more or less extension of posts to produce the correct pupillary distance—and for each eye separately.

Toronto Dealer's Sales Increase

A letter from Mr. John L. Rawbon of Toronto tells us that he has been having great success by coöperating with us in his advertising. He says:

"Your dealer help service department has increased my sales and solved my advertising problems. I thank you for these favors and you may rely on me to be a strong AOCo man at all times. It pays."



Ameoptico

AOCO ZYLOWARE

Fits-U's Call Forth Universal Praise

They say it took Noah 1000 years to build the Ark; but when it was done it was a mighty good job. The AOCO did not happen to be the first to put this kind of frame on the market, but now that we have two different models in zyloware you may be assured of the fact that they are far ahead of every similar thing now being made. Here, briefly and straight to the point, are the reasons for their superiority.

First: their color. They are made of the best materials. In the dark mottled zyloware for instance, the colors do not lie in a streak of dull light and dark tones. They are beautifully intermingled and blended.

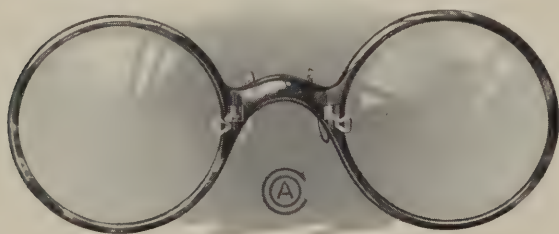
Second: their finish. It seems to be a general impression that zyloware goods are made by taking the liquid material and pouring it into a mold. This is not true. Frames are cut out of a flat sheet of material, by means of a jig saw. Since this is, of course, a hand process, there is likely to be considerable variation unless it is very accurately done, and the work closely inspected. AOCO Zyloware

Practically all such frames are put on the market by firms who manufacture combs, vanity boxes and other celluloid goods, and who have gone into the manufacture of eyeglasses and spectacles as a result of the rage for this style of eye-wear. The AOCO has planned the design of its own frames, with the result that they incorporate the knowledge of proper requirements gained through 80 years in the optical business. AOCO zyloware spectacle frame bridges are angled at 45°, the same

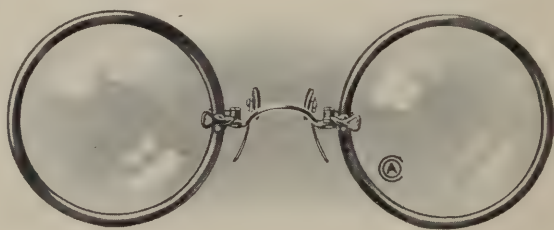
as metal frames, to provide a broad, comfortable bearing surface. Endpieces are strong and properly proportioned. Temples are more accurately adjusted and more easily fitted. The idea of the concealed spring and broad zyloware bridge on the new R3112 model is an exclusive AOCO (patent applied for) construction. It is by far the neatest design on the market as may be seen by the illustration. Made in 60, 63, and 65 P. D.

The No. 3112 Mounting with heavy zyloware rims (40 mm.) illustrates an exclusive AOCO method of attachment to the eyes. This device is neat-ap-

ORDER OF YOUR JOBBER		
<i>Cat. No.</i>	<i>Description</i>	<i>Per Dozen</i>
3112	No. R 811 zyloware eyes, dark shell color, mounting	\$12.00
	With R 841 eyes, light shell color	13.50
R 3112	With 1/10 12K guards and arms	14.50



No. R3112 Patent Applied For.



No. 3112 with Zyloware Rims.

Fits-U's are shaped with an accuracy that can best be appreciated when compared with frames of other makes. The beauty of the finished frames depends largely upon these earlier processes, and the most careful workmanship is scarcely sufficient to counteract the effects of carelessness in the initial stages. The skillfully polished surface of AOCO Zyloware Fits-U's itself speaks of quality.

Third: their design. No other zyloware goods have been designed in the same way as those of the AOCO.

pearing and extremely strong. Any style AOCO fingerpiece mounting can be supplied when specified.

The arguments given here can be proved to your own satisfaction if you will specify AOCO zyloware fingerpiece frames of your jobber on your next order. We have understated, rather than exaggerated, their merit. And what we have said regarding finish and color refers to all AOCO goods.

Made with 40 mm. eye and supplied with any of the regular style guards.



Spring Eyeglasses, a Line that is Always Popular

"Yes," said the wise ones ten years ago, "the old horse is doomed. There, look at that auto streak past the buggy. That's what will prove the end of driving. How many folks do you imagine will be satisfied to jog along in a carriage when they can go 40 miles an hour in an auto?"—And we probably proceeded to assume an oracular expression, saying, "Yes, it's 'good-by' to the horse, isn't it?"

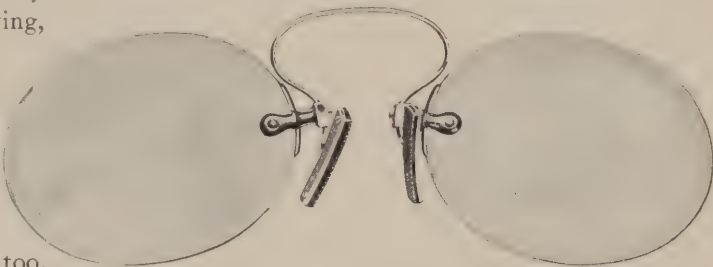
But Dobbin still pounds the streets of brick and dirt alike. He is still with us and likely to stay. You can't get rid of him, because too many people like him and because in certain cases he is better than the auto.

That is just the case of the spring eyeglass, too. The fingerpiece has "jumped the market," so to speak, and left the old spring eyeglass away back in the ruck. But it still hangs on, just because many people like it and because when properly fitted it is one of the most comfortable forms of glasses on the market.

There are probably a number of your customers who would like spring eyeglasses in gold better than any other kind, if shown such a perfected model as the No. 893 illustrated here. An examination of the spring reveals the fact that it is oval on both sides, and the advantage of this shape is at once evident on comparing its stiffness and resiliency with the ordinary spring in flat or half-round section. The

oval reduced spring holds lenses in perfect alignment. Offset guards lined with cork are regularly furnished unless otherwise specified, and a 54 mm. ($2\frac{1}{8}$ inch) spring. On special orders other guards or other length springs can be supplied.

If you prefer a frame eyeglass, order No. 803, regularly fitted with the same spring and guards as are used on the No. 893. The frame on this eyeglass is medium weight, and beautifully finished.



AOCO Solid Gold Eyeglass No. 893.

Your jobber can supply you with AOCO eyeglasses. Why not order now and bring them to the attention of your customers stronger than ever this winter?

Cat. No.	Description
893	10K, 12K or 14K gold, cork or zylonite offset guards, oval reduced spring mounting.
1793	1/10 12K or 1/10 14K gold-filled, cork or zylonite offset guards, oval reduced spring mounting.
803	10K, 12K or 14K gold, cork or zylonite offset guards, oval reduced spring, medium weight frame.
1703	1/10 12K or 1/10 14K gold-filled, cork or zylonite offset guards, oval reduced spring, medium weight frame.

We Should Make Your Gold-Filled Eyeglasses

This seems quite evident to us of course, for we are so very close to our own work. We know it from the dynamo in the basement to the top of the smokestack—in other words, from the ground up. But you don't know it as well as we do; otherwise there would be no need of urging you to buy AOCO gold-filled eyeglasses.

Now, you use a reasonable amount of care in the selection of your goods. You choose your stock with deliberation, no doubt, and if the goods you get are not up to what you consider a proper standard, you very naturally kick. It is a privilege you have.

You are not as close to our business as we are, as we say, so you cannot take some of the points about optical goods into consideration as well as we can. For example, you look at two different makes of eyeglasses and decide to order a certain one. You must judge by

their outward appearance and by your past experience.

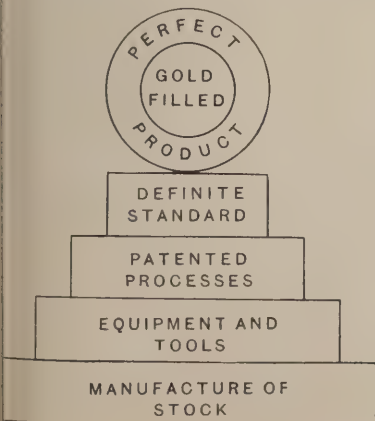
But when we judge them we go beyond that. We know what is *inside* those frames; we know how the parts are soldered; just how the polish is obtained; just what are the strong and weak points in the mechanics of their construction.

The AOCO business is conducted by men who have had better opportunities for observing eyeglass-wear than can be found in any other concern. They have had unequalled opportunities for experimenting, improving and originating. Is it any wonder, then, that when a gold-filled Fits-U eyeglass is put on the market, it is known to be the best that can be made? It is a perfectly natural and logical conclusion, isn't it?

Take the matter of gold-filled stock, for example. We make our own, not "for the fun of it," but because only in that way can we get the quality of stock we need to uphold our high standard. We have access to the world's gold-filled stock market, but it does not satisfy us. So we make all the stock we use ourselves; and we *know* that we are up to the proper quality.

Then, too in the matter of manufacturing: we have an equipment that is unique; nothing else like it in the world. We can do better work in better ways by exclusive processes. The result is bound to be better eyeglasses.

When you give your check book its next exercise, see that it is made to pay your jobber for AOCO gold-filled goods—for Fits-U eyeglasses. You will get the best-constructed, longest-wearing, most beautiful eyeglasses on the market today.



Connect Up With AOC Co Power

AOC Co NATIONAL MAGAZINE
ADVERTISING FOR DECEMBER

AOC Co DECEMBER ADVERTISEMENT



"The lens is the most important part of your glasses.

And yet few people know whether they are getting good lenses or bad. These were made by the American Optical Company, the oldest optical manufacturers in America and the largest in the world. If you always insist upon getting American Optical Company lenses you will be sure to have the best glasses obtainable."

Ask **your** oculist, optometrist or optician—he knows
AMERICAN OPTICAL COMPANY
Southbridge Massachusetts



Largest Manufacturers of Spectacles, Eyeglasses and Lenses in the World.

Our advertising is creating a demand in your town for AOC Co goods. You are ready to supply that demand. Tell your people to tell them in your newspaper, in your moving picture theatre, in your window and in your mails. Write today for your supply of our December newspaper electro, lantern slide, window card and blotter. Use them while our December advertisement is running in the magazines. We furnish these local helps free to all oculists, optometrists and opticians who use them.

DEALERS' READY MADE
ADS. FOR DECEMBER

DEALERS' WINDOW
CARD FOR DECEMBER

DEALERS' LANTERN SLIDE
& BLOTTER FOR DECEMBER

DEALERS'
PROFITS

© AMERICAN OPTICAL COMPANY ©



The Story of the Camel that Said "Humph"

Kipling once wrote a children's story that begins like this:

"In the beginning of years, when the world was so new, and all Animals were just beginning to work for man, there was a Camel, and he lived in the middle of a Howling Desert because he did not want to work; and besides, he was a Howler himself. So he ate sticks and thorns and tamarisks and milkweed and prickles, most 'scruciating idle; and when anybody spoke

People in your own town have been reading the many advertisements about the Association and the sterling principles of Honor, Quality, Strength, and Service on which its members conduct their business. They know that the AOCo is a member, for our name appears in every advertisement. Your part is to apply this great publicity right to your own store so that your possible customers will recognize your responsible business standing more strongly than ever.

Here are several ways to do it. First, write to the Rice Leaders of the World Association, 358 5th Ave., New York City, for full particulars of the \$15,000.00 window dressing contest, and ask them to send you one of the handsome banners illustrated here. Next, write to us for an electrotype of the well-known emblem and use it to imprint your stationery, circulars, etc.

Let the Association publicity help boost your sales in this way and it will result in bigger, better business this winter.

We Sell Goods

Made by

American Optical Company

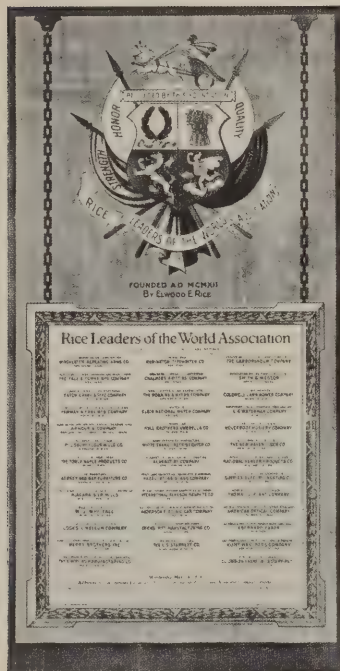
BY INVITATION
MEMBER OF



Leipsic, Ohio.

"Received your catalogue some time ago; it is a beauty."

S. M. DOTTERER, Optometrist.



The banner that will be sent in response to your request, 40 in. long by 20 in. wide.

to him he said 'Humph!' Just 'Humph!' and no more."

Now here's the point: don't be a camel and say "Humph" and be "'scruciating idle" while the Rice Leaders of the World Association is giving you an opportunity to be known as a live, hustling optical dealer who sells goods manufactured by a "Leaders of the World" Concern.

Work for Uncle Sam's Mail Clerks

The other day our traffic manager came up to the advertising department and asked us casually, "Do you want to see a *real* parcel post shipment? If you do, just go down to the shipping room." So down we went, and gazed in awe-struck silence at the imposing array of bundles and the still more impressive kaleido-



scopic conglomeration of multi-colored postage stamps, ranging all the way up to \$1.00 per stamp. We were politely informed that the postal cost of sending this lot of packages to a single customer was more than \$400 for stamps alone, and that they were bound to a foreign land.

We agreed that the layout was a back-breaker to load on Uncle Sam's shoulders all at once, and then proceeded to photograph the array as you see it here. Right in the center there is a copy of AMOPTICO set up, that will convey some idea of the comparative size of the shipment, which aggregated close to a ton and a half in weight.



Send for the AOC Co Trial Set Catalogue

When you want to get the best goods in these days of rushing business, you consult a specialist.

We have specialized in the manufacture of accurate Trial Sets for twenty-five years. Our new Trial Set catalogue illustrates and describes the styles that have proved the best on the market. If you are interested, write for a copy.



Amoptico

Amoptico

Reg. in U. S. Pat. Off.

Vol. III November, 1914 No. 8

Published Monthly by
American Optical Company

1833-1914

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Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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Amoptico Serves a New Purpose

MR. R. Stanley Goodhart, of Reading, Pa., was recently put on our AMOPTICO Mailing List, and he has been using his copies in a rather unusual way. He says in his letter:

"I took a large white card, or mat, and cut out the different views of the A. O. Company works found in AMOPTICO, and pasted them on the card and had it framed in 'mission' and hung it in the most conspicuous place in my office, with a card under it which says:—'The finest Optical Manufacturing plant in the world. We sell you goods made by this Company, organized before 1872, and developed on the highest principles of business economy.'

Almost everyone who comes in comments on the beautiful buildings, so light and clean, and says, 'Well, they must turn out good stuff or they could never keep up a place like that.' This gives me a chance to talk, and I make the best of it."

We have sent Mr. Goodhart one of our regular pictures of the A. O. Company factory, and will be glad to send one to any other

optometrist or optician who can find room for it in his place of business. He has shown real enterprise in decorating his office as he has.



Advertising Campaign to Parents of School Children a Success

Gentlemen:

We have just finished our Parents' Circular campaign which we received from you some days ago. It proved a very successful investment for us, and we are open for your next idea on how to push Fits-U's. We have created a demand for them through our advertising received from you and can assure you of our appreciation.

Yours very truly,
(Signed) MAYER OPTICAL CO.

The letter quoted above was recently received from the Mayer Optical Company of New York, and they refer to our advertising campaign "How To Increase Business among Parents of School Children," such as we have described in AMOPTICO. Hundreds of the sets of advertising materials (newspaper electros, circulars, and window cards) have been sent out, and are bringing in business to the progressive dealers using them.

We have a little circular, which describes the campaign, that you should be interested in if you have not already secured the complete outfit. It is yours for the asking.



Cuban Concern Recommends The AOC Co Edger

Just as the editor was writing the comments on the letter quoted above, another was placed on his desk from a firm in Cuba. Some time ago we wrote to ask them what they thought of the AOC Co M72 Automatic Edging Machine they are now using, and this is their reply.

"Dear Sirs:

Your letter of the 9th inst. to hand, respecting the M72 Edging Machine. I am pleased to advise you that I find it very satisfactory in all respects, and will be glad to recommend it whenever the opportunity presents itself."

Very respectfully, American Opticians,
(Signed) JOSEPH FOLCH "

One of the most important features on this machine is the labor-saving way in which formers are arranged. Five formers, corresponding to standard lens shapes, are affixed to the end of a spindle and a change from one to another necessitates only the indexing of a specially constructed and hardened steel shoe, which is at all times in direct contact with the former corresponding to the lens shape desired.

The rapidity and accuracy with which this M72 Machine works is as remarkable as its simplicity of construction. We recommend it to you as being the most advanced type of edger on the market. Send your order, or write for further particulars, to your jobber. Price \$135.



AOC Co Catalog a "Liberal Education"

Mr. G. L. Parker of Detroit is finding our general catalog a help in the carrying on of his business, and believes that others could, too.

This is but natural, for the catalog is more than a mere list of optical goods. It is an "optical encyclopedia," containing information on the various forms of eyeglass and spectacle constructions, systems of measurements, etc. It explains the advantages of certain types of construction and tells how to order. Mr. Parker's letter follows:

"Permit me to acknowledge receipt of your splendid catalog and to compliment you on the makeup of your book. I find it a very liberal education in itself and I am sure that the trade in general will more than appreciate your efforts in producing such a high-class catalog.

GORDON L. PARKER, Detroit, Mich.



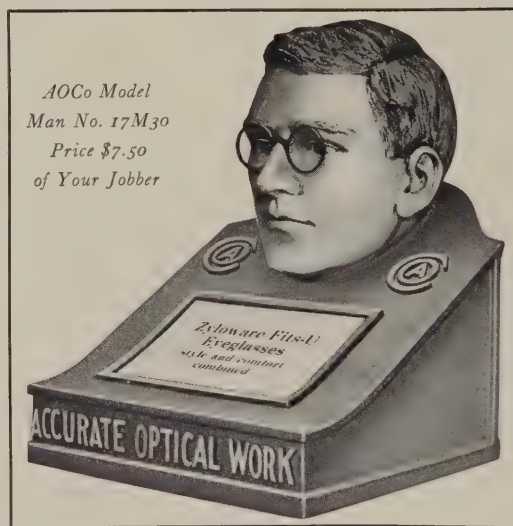
Let This Model Man Sell Glasses in Your Window

He's a life-size model, this fellow, finished in beautiful old-ivory and bronze-green tones that make an ideal combination to harmonize with your window displays. His one object in life is to help you sell eyeglasses and spectacles. He sits in your window all day long without rest or pause, never taking an hour off for lunch, never getting tired of his job, and never making mistakes. He doesn't ask for any salary at the end of the week or expect any more attention than an occasional dusting off.

You can put any kind of eyeglass or spectacle you want on him, Varsity, Zyloware, Fits-U, or Motor Glass, and in the front panel you can place one of the nine attractively printed cards (with which he comes supplied) explaining the good points of the eyeglass or spectacle he is wearing.

McEvoy Brothers of Worcester had Mr. Model Man in their window, and we photographed him to show how effective he looks.

This is the first time that you have been able to buy such a demonstrator as Mr. Model Man is. He is made particularly to hold all sorts of eyeglass-wear. When he puts on a Varsity, for instance, with a nifty ribbon attached, he looks like an ambassador



extraordinary and minister plenipotentiary to a foreign court. He's a great little salesman.

The price is astonishingly low. It costs you only \$7.50 F.O.B. Southbridge, through your regular jobber. When all packed for shipment, he weighs approximately 45 pounds, and it would be best to say whether you prefer him sent by express or freight. Nothing like this display has ever been prepared before. It is the most remarkable thing of its kind

ever produced. It should be one of the prominent fixtures in every optical store and office in the country.

Pleasing Customers is "Nuts" for the Fits-U

C. E. Chapman of Texas, has the right idea when it comes to stocking eyeglasses. This is what he writes us:

"I am 'nutty' over the Fits-U and you cannot find anything else in my stock, in the way of a fingerpiece mounting. I enjoy reading AMOPTICO, and find many good suggestions and am employing a good many of them."

Thanks for the AMOPTICO compliment, Mr. Chapman. Our hope is to make it more interesting than ever during the months that are ahead.

make it possible to place a pair of Fits-U's on it in exactly the proper position.

Interesting Window Demonstration Sign

Originality is our middle cognomen. We like to jump the beaten paths and find that there are new things under Old Sol every little so often, proverbs to the contrary notwithstanding.

Recently we kicked over the advertising traces and ran away with the bit of inventiveness in our teeth. When we finally wandered back again, we had a brilliant idea for a brand new window display sign such as had never been seen before. We put the idea into tangible form and here it is, ready to lend attractive interest to your displays. It is a little cut-out of a pair of eyes, with notches so shaped as to



This is a very effective way of demonstrating Fits-U's in your window or show-case. If you can use two or three, just ask us to send them.



Quick Sales and Large Profits with the New AOCo Sterling Silver Self-Closing Cases

A demand has arisen for sterling silver cases; a demand not merely from one or two optome-

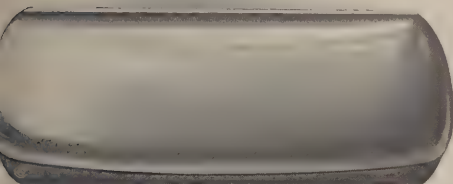
successful business. We have now produced sterling patented cases that are not merely beautiful to look upon, but are handsome with the real grace of utility. They are adapted to meet the requirements of those who first want a spectacle or eyeglass case; next, an ornamental article anyone will be proud to carry.

The qualities of perfect utility, complete adaptation to every requirement, sterling value and expert finish will make AOCo Ster-

gram with the words "Sterling Silver."

A word as to quality. You can find sterling cases at a very wide variety of prices. When you select a cheap grade you get exactly what you pay for—a cheap article.

The price of a silver case is largely determined by its weight. A light silver case is often very much worse than one of polished aluminum, for it is very soft. A slight knock will leave a dent, and in a short time it becomes so twisted out of shape that the cover will not shut properly. On the other hand, a case may be made unnecessarily heavy, thus adding weight and needless expense. Knowing these dangers we have very naturally avoided them. You pay a fair price for an



No. 325, for Spectacles.

trists and opticians, but from a large number in all parts of the country.

There are plenty of sterling silver cases on the market now—of a sort—but the reason the AOCo brings these new ones to your attention is that these are the *right* sort.

An article is only saleable when it is perfectly adapted to the work in hand. You could make eyeglasses with beautifully engraved rims half an inch wide, but they would not sell. Sterling Silver cases *have* been made that in some respects were beautiful examples of the silversmith's art. But—they lack that perfect design and appropriateness that is necessary to make them "sellers." Instead, they are too often "stickers."

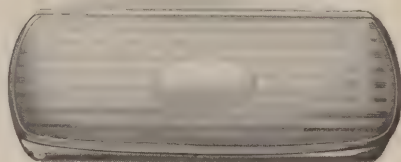


No. 715-10 Silver, for Large Eyeglasses.

ling Silver Cases a winning line for you to carry during the Christmas season. Mark you, it is a strictly new line, not to be confused with any previously on the market. We have created it along ideas similar to those used in the design of our steel form patented self-closing cases, that have won into favor because of the advantages they possess over all others.

These cases are made in three sizes: No. 325, for spectacles, No. 705 for small eyeglasses, No. 715 for large eyeglasses. All have flat tops, beautifully tapered ends and a gracefully shaped deep toric mid-section. A fine quality green silk velvet is used as a lining. Each size may be had in three different designs, such as are illustrated here: plain, engine turned and hand engraved. The patterns

used were selected with the greatest of deliberation from among a large number, those being used which have proved to be the very best of the season's sellers. All cases are self-closing, and on the lip appears a little AOCo mono-



No. 705-15 Silver, for Small Eyeglasses.

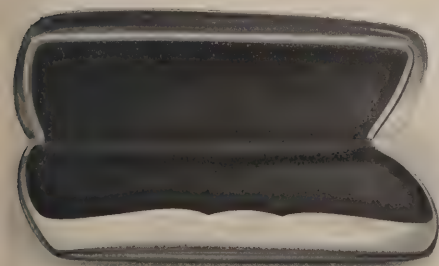
AOCo Sterling Silver self-closing case, and may be sure that you are neither paying for unnecessary silver or that the case is so light as to give unsatisfactory wear.

Each case is individually packed in a cotton flannel bag.

The same old round of Christmas goods will bring the same old round of trade.

You need enterprise to win the prize of increased business.

Plain	Size	Trade Price Each
325 Silver	Spectacle	\$6.75
715 Silver	Large Eyeglasses	6.00
705 Silver	Small Eyeglasses	5.75
<i>Engraved</i>		
325-10 Silver	Spectacle	8.75
715-10 Silver	Large Eyeglasses	8.00
705-10 Silver	Small Eyeglasses	7.75
<i>Engine Turned</i>		
325-15 Silver	Spectacle	7.75
715-15 Silver	Large Eyeglasses	7.00
705-15 Silver	Small Eyeglasses	6.75



The AOCo has naturally attacked this problem from the standpoint of optical efficiency. That is the foundation of our



Advantages of Zyloware Comfort Temples

Patent Applied For

The latest development in comfort eyeglass-wear is the Zyloware comfort temple we announced for the first time in our October AMOPTICO. These new temples have a Zyloware tip, running back to within about two and one-half inches of the butt, where it is firmly jointed to a gold-filled wire. This construction makes an exceedingly light temple that slips behind the ear without the slightest drawing or pulling, when properly fitted. It holds the spectacles with firmness and accuracy. Right in our own plant here in Southbridge there are many now being worn because they are so perfectly comfortable and light.

They can be substituted for any of the regular AOCo temples, if desired. At this particular time when the rage for zyloware is so universal, you will find them ready sellers, both because of their comfort and their stylish appearance.

We are making them in 6, 6½, and 7 inch lengths, and your jobber can sell them to you as follows:

Cat. No.	Description	Per Dozen
1669	Zyloware Comfort Temples 1/10 12K	\$5.90

Fits-U's Win Out in Macon, Georgia

Mr. J. E. Davis of Macon, Georgia, agrees with us on one point: the value of Fits-U eyeglasses. We know them thoroughly from the structural side and from the "selling" side as well. Mr. Davis is having practical experience with them from the selling standpoint, so the note he wrote to us recently will be interesting to others:

"I have used your goods for years, particularly Centex Lenses and Fits-U eyeglasses, and find them superior to any others; and I have tried many different mountings. I have a copy of your handsome catalog, too, and frequently consult it."

Centex lenses are the finest ophthalmic lenses made. If you will specify AOCo Centex lenses, just as Mr. Davis of Macon is doing, you will get uniformly satisfactory

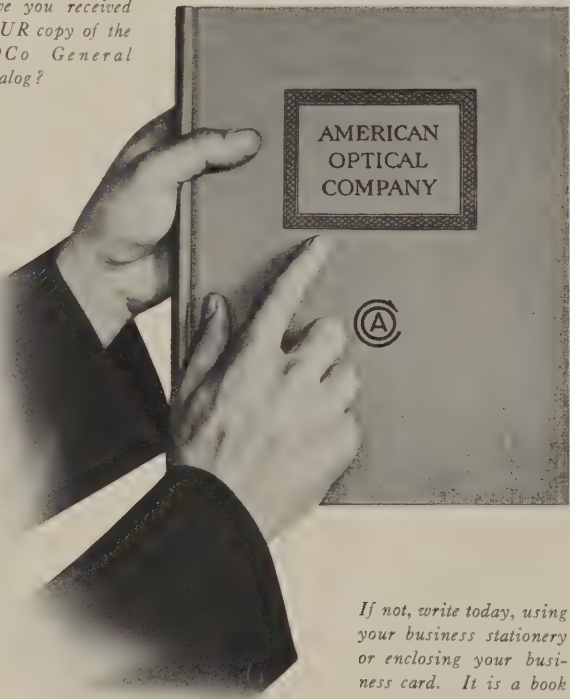
results that cannot be easily obtained otherwise.

Philadelphia, Pa.

"I have cut out using any nose piece but the Fits-U and cannot speak highly enough of it. Of all the many nose pieces that I have tried to handle in the past the Fits-U's will stand more wear and tear, need less adjusting. When once adjusted they will stay.

Dr. John A. Presper.

Have you received YOUR copy of the AOCo General Catalog?



If not, write today, using your business stationery or enclosing your business card. It is a book you need.

In all the time we have been making Kryptoks, it has been our constant endeavor to improve them so that you might be able to sell them more easily and with greater satisfaction to your customers. This policy has resulted in the steady advance in quality with which you are no doubt familiar. It accounts for the cleared surfaces of the blanks now being made, for the accurately placed segments, and for the finer fusing. If you will always insist on having your Kryptoks ground from AOCo blanks you will get the most perfect Kryptoks made.





Ameptico

Saving Time and Money With AOCO Optical Machinery

The John Shillito Company installed some of our latest model machines not long ago, so we wrote to them asking what kind of service they were giving. We publish the reply they sent us. Those of you who need new machines will be interested in reading it.

The new improved feed for the drilling solution (melange) they refer to is a recent improvement that is now being used on all our M91 drills. It is extremely simple, and has a positive action that always insures a proper amount of melange when drilling. Just drop your jobber a line asking for further particulars about these machines.

AOCO M21 Bench
Surface Grinding Machine.

The John Shillito Company

Optical Department

E. M. Randolph, Manager

Cincinnati, Sept. 12--14

American Optical Co.,

Southbridge, Mass.

Gentlemen

Your #M72 Edging Machine and the M21 Surface Machines were received and are in operation. I am pleased to say that the #M72 Edging Machine is a Wonderful Piece of Mechanism. It does the work accurately and quickly and is a wonderful Time Saver. The M21 Surfacing Machines are fine and my workmen say it is a pleasure to use them. I must also mention the #M91 Drilling Machine. The new improved Feed for the Drilling Solution has supplied a long felt want. It works perfectly and is a wonderful addition.

Yours very truly,

E. M. Randolph

MOLINE, ILL.

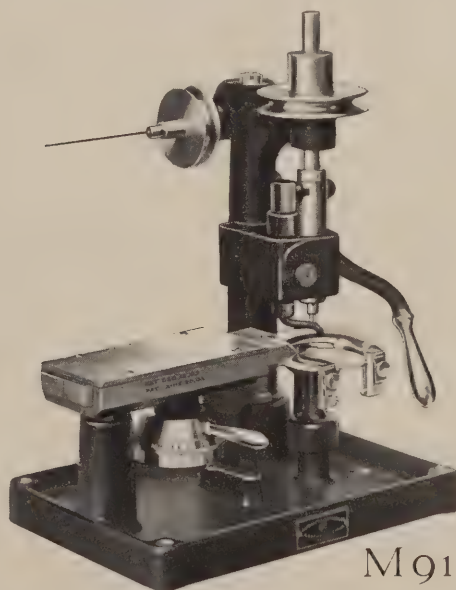
"I wish to thank you for the beautiful catalogue you sent to me a short time ago. This is the finest I have seen. Also for your monthly AMOPTICO. This is very instructive as it keeps me posted on all the new mountings, etc. I have used the Fits-U mounting for some time and it has proved very good. The new one with the Ovalax springs is a winner.

C. D. BOYLE, Optometrist."

Newark Firm Saves Time and Labor with M21 Surface Grinders

Anspach Brothers of Newark, N. J., bought an AOCO M21 Surface Grinder not long ago and in reply to our inquiry as to how it was working they sent us the following letter.

"In answer to your inquiry regarding the M21 Bench Surface Grinding Machine, which we purchased from you lately, we wish to say that it is proving very satisfactory indeed. Its many time



M91

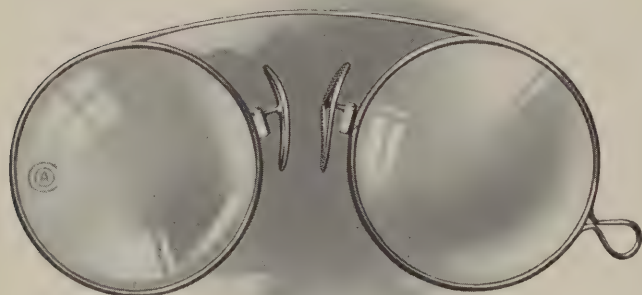
and labor saving devices are characteristic. We wish to make special mention of the two-speed counter-shaft with foot shifting device. It works like a charm. Taking everything into consideration, we consider this machine is all that can be desired for large or small prescription shops.

Very cordially, ANSPACH BROS."

This firm has a two spindle AOCO outfit running and their experience with it confirms the opinions of the many others who now have these M21 Surface Grinders in their shops.



NEW GOODS *for* LIVE DEALERS



Kilglare Motor Glass Now Supplied in New No. 357 Japtol Self-Closing Case

'S funny, isn't it, how one thing leads to another? When the auto first chugged across our horizon, it brought with it a small army of new necessities and perquisites that have kept the pen-wielding arms of the nation writing checks ever since. The worst of it is, new things are constantly supplanting the old, and they are so much better that we simply have to get them. So out comes the old pocket bank again and down goes the Cash Debit account some more.

"Look At Me—The New Varsity"

"I'm a new gold-filled Varsity, the neatest, best-designed, most carefully made eyeglass on the market. Modesty is the only virtue I don't possess, so I can tell you all my good points without blushing a single blush.

My spring is oval, sturdy and strong. You can't warp my lenses out of alignment permanently because it is too rigid. It is solidly welded to my eyes with an inconspicuous neatness that will delight every lover of careful craftsmanship. My eye wire is solid and substantially joined with an AOCo patented V-shaped Joint.

You cannot do better than to add me to your stock of Varsities, for I'm the kind that makes every wearer feel like a millionaire when he gets behind me, and I force him to dig for the dollars. Every time you sell me you net a handsome profit and make a pleased customer.

You can find me waiting at your jobber's home just aching for an invitation to come to you. Send the invitation along as soon as you can so that I can help push your sales during these early winter months, and I'll start P. D. Q.

This is how I'm classified:

Cat. No.	Description	Per Dozen
4642	1/10 12K gold-filled Varsity, 40 mm. eye	\$9.00

Over five hundred requests for school window displays. Everyone we heard from got good results. Schools are now in session. This is your chance. Write for circular.



Kilglare Motor Glasses, No. 3026½, designed to make night driving safe by eliminating danger from the glare of approaching lights, must have a case. Here it is, the black Japtol case No. 357. It is a steel form garage into which every Kilglare owner can run his Motor Glass after using. The high dome cover is actuated by a powerful AOCo snap spring that will always hold the cover close and prevent dust from penetrating.

The price of these No. 357 Japtol Cases is included in the price for Kilglare Motor Glasses given below. Push a good thing such as this is, and ready sales will be your reward.

They can be bought of your jobber as follows:

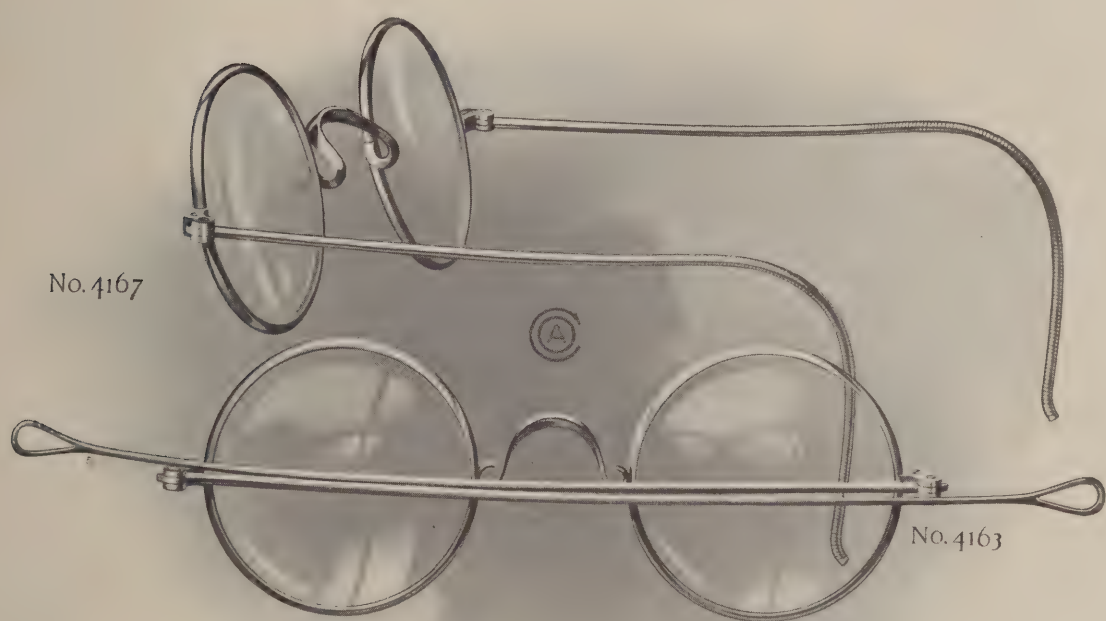
Cat. No.	Description	Per Dozen
3026½	Motor Glass, white metal, round eye, with Kilglare lenses (upper third dark amber, lower two-thirds light amber) complete with No. 357 Japtol case.	\$16.00

The Speedwell Motor Glass makes a dandy spectacle to protect the eyes from snow glare. Keep this in mind as a cold weather hint.



Ameoptico

Style, Comfort and Wear in AOCo Gold-Filled Varsities



THERE is a vaudeville song with a chorus that ends in some such wise statement as this: "You can't get away from it—You can't get away from it at all."

You "can't get away" from the fact that a great many optometrists and opticians are today boosting sales and profits by selling AOCo gold-filled Varsity spectacles. Now it's up to you dealers, who so far have not tried them, to "go thou and do likewise."

AOCo Gold-Filled Varsities combine style, comfort and finish in a degree to satisfy your most finicky customer. The most careful workmanship, the finest grade of gold-filled stock (made in our own plant) and the most painstaking finish are insisted upon. We have advantages of equipment for manufacturing such goods that cannot be matched. Soldered joints are made by a private AOCo method that means longer life, stiffer metal and less discoloration. Shaping of bridges and endpieces is accomplished by such mirror-smooth dies that only the lightest buffing is necessary, and the shell of gold with which every part of the frame is covered comes to you uninjured.

We can unhesitatingly say that in design these Varsities are the most beautiful and gracefully propor-

tioned on the market. No pains have been spared to make them perfect.

No. 4167 Varsity is made with half riding temples, and ogee 10K solid gold angular endpieces. No. 4163 has the same style endpieces, but straight temples with open tips are used. Either of two styles of bridges may be had, the "C" bridge with curl post or the close-fitting band bridge. When you order be sure to specify which kind you wish.

Three sizes of P. D.'s are made: small, medium and large. Unless otherwise specified each dozen comes to you in assorted sizes. Eyes are 40 mm. round.

Put the kick of AOCo Varsities under your sales and help them ring the bell for a new record. Your jobber can sell them to you as follows:

Cat. No.	Description	Trade Price Per Pair
4167	1/10 14K Gold-Filled Varsity Spectacles with 10K solid gold angular endpieces. Half riding temples, comfort cable tips.	\$5.00
4163	1/10 14K Gold-Filled Varsity Spectacles with 10K solid gold angular endpieces. Straight temples, open tips.	\$4.00

Twenty Million Eyes

SATURDAY POST

TEACHING THE RETAILER HOW TO FIGHT

THE SATURDAY EVENING POST

"The lens is the most important part of your glasses."

AMERICAN OPTIC COMPANY

Ten Years at the Old Job

Patent, conscientious, faithful, this man had worked a decade—and his faithfulness had been rewarded by a nominal salary increase each year. At the beginning of his eleventh year he was making \$1800.00 a year.

One man, change his job and find his employer's service and that was the end of his career. He was making \$1800.00 a year.

Let us tell you about it. What we will send you our entire year if you read this advertisement through. Address: The Curtis Publishing Company, Philadelphia, Penna.

Can You Keep Pace With War-Time Prices?

It may be possible to try to reduce the cost of living, but it is extremely more practical to keep pace with the rising cost of living. The Curtis Publishing Company, Philadelphia, Pa.

"What! Only two weeks from Christmas?"

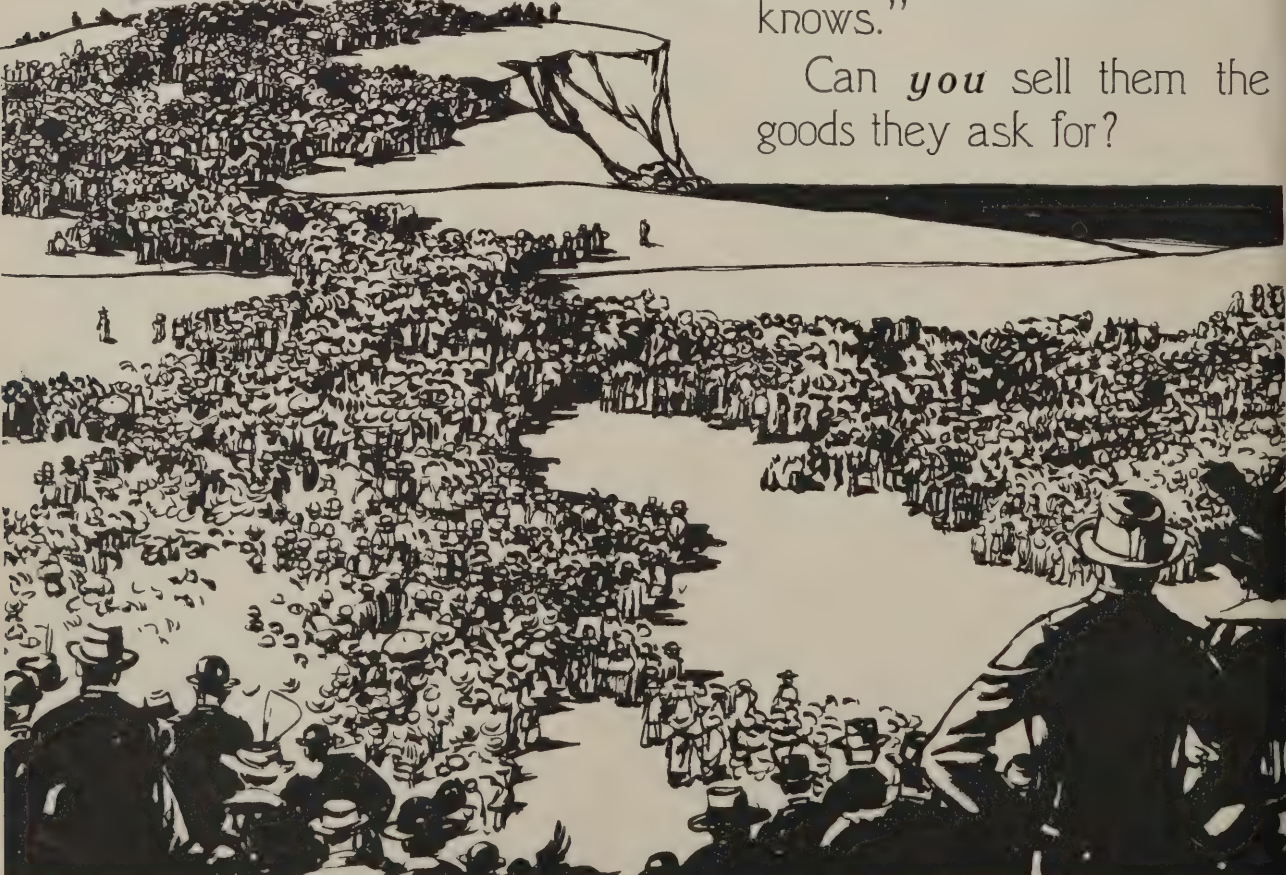
to get down on the necessities of life, you may buy gifts. You can make Christmas one if you take a long look ahead and plan now.

are being focused on AOCO goods by the advertisements appearing in eleven different December magazines.

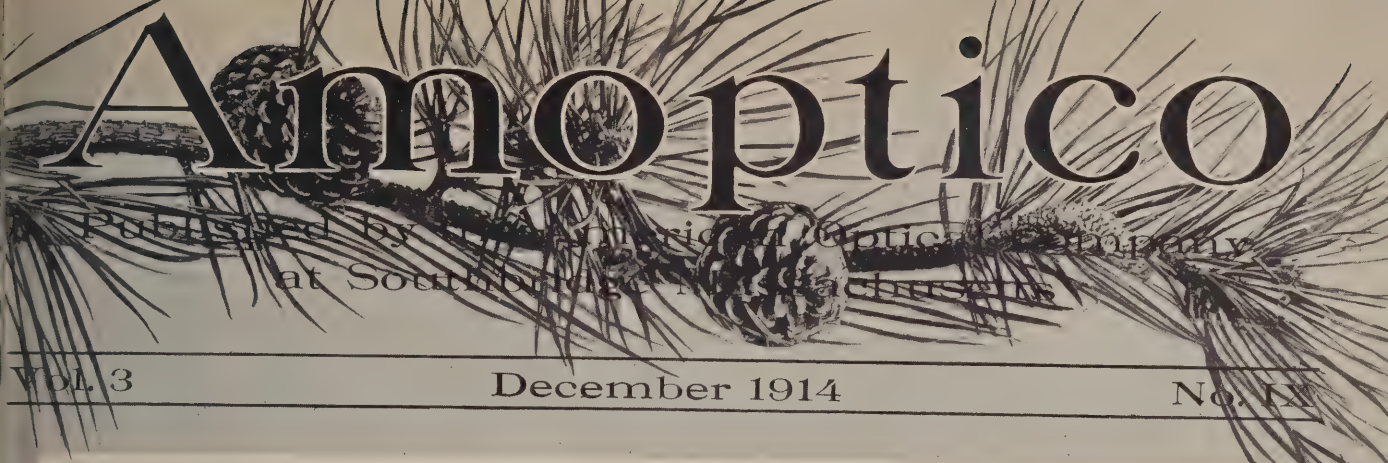
A big percentage of your own friends and neighbors your own possible customers -will read this line:

"Ask your Oculist, Optometrist or Optician—he knows."

Can *you* sell them the goods they ask for?



Amoptico



Published by the American Optical Company
at Southbridge, Massachusetts

Vol. 3

December 1914

No. 12

"MADE IN AMERICA"

The present prosperity of the American farmer, business, and professional man is a mighty inspiration to those who have been watching the splendidly-united efforts of the American people in this world crisis.

If nothing else, it proves that Americans working together are self-supporting, and America self-sufficient.

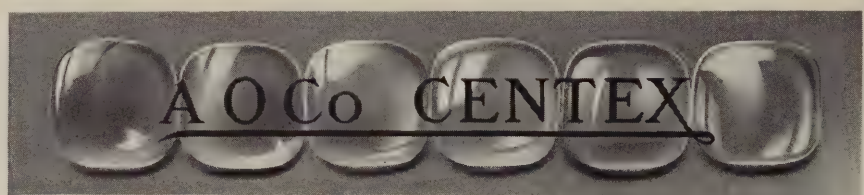
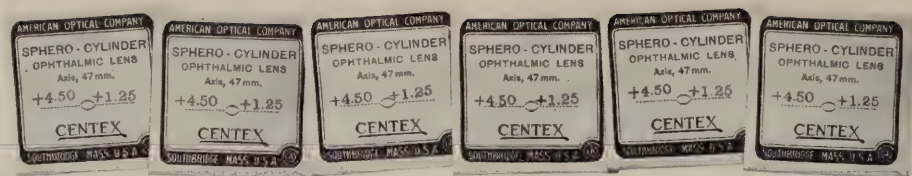
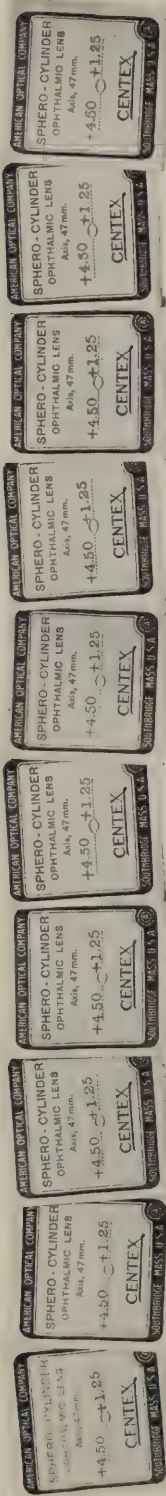
This unity of effort does not imply any prejudice or unfriendliness towards the products of any nation. It means for you simply a firm resolve to serve your country, giving the American manufacturer that preference to which he is entitled in his own market, by using optical goods.

MADE IN AMERICA



American Optical Company

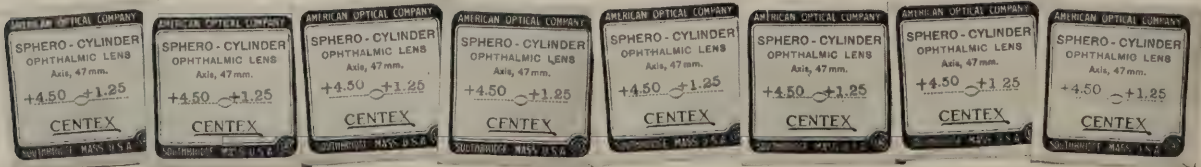
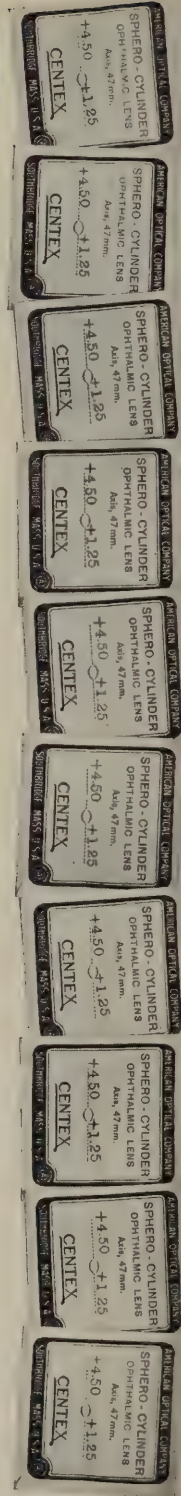




YOUR ENTIRE ABILITY AND EXPERIENCE AS A REFRACTIONIST ARE CENTERED UPON THE RESULTS OBTAINED IN THE EXAMINING ROOM.

The prescription is all-important. How necessary it is, therefore, that the lenses check accurately with the prescription. You are dependent, then, on good lenses for your success. You can't afford to use any other kind. The man who takes no chances on his future knows this, for he specifies and sees to it that he gets only genuine

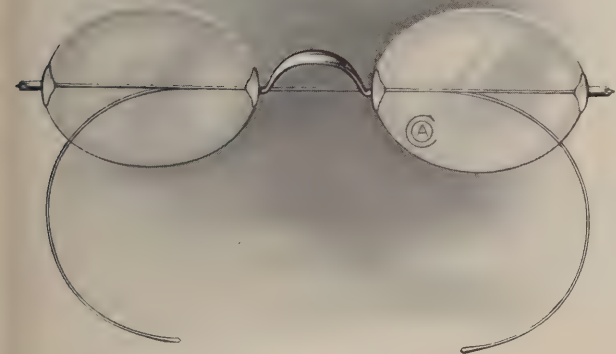
AOC Co Centex



Amoptico

—and Now a Screwless Mounting

MOST of us nowadays can think up divers ingenious ways and means of adding new details to this already overburdened business. The patent office archives are full of freak notions which the wily inventors hope ultimately to foist upon the unsuspecting optical victim and thus win goodly lucre and undying fame. Not that we decry inventors or inventions.



Spectacle Mounting with Screwless Straps.

The man who creates something really a boon to suffering humanity or who makes the proverbial two blades grow where but one grew before is entitled to all honor, recognition, and reward; but the greatest of these is the individual who builds his ostermoor of one bale of excelsior where it used to require two—and gets away with it.

So it is with spectacles and eyeglasses. Did you ever figure the number of parts to an ordinary pair of eyeglasses? Two lenses, one spring, two studs, two guards, and four screws—*eleven individual pieces*; if cemented bifocals, *fourteen*.

A fellow who was wiser than some of the rest saw that the ideal bifocal would be made of one piece of glass. It was made, and it is a success. It simplifies, cuts down detail. It is the Uni-Bifo (Luxe) One-piece Bifocal.

There are few little details that cause more worry and annoyance to the dealer than glass screws. Glass screws are the indirect cause of many broken lenses, that come out of the retailer's profits whether the breakage occurs in the shop, at the fitting-table, or after the job gets out of the store.

Let's eliminate glass screws, then. Why stand all this breakage and consequent expense? It is a perfectly reasonable and practical thing to do this for we have developed a rimless construction in which any shape of regular lens in flat or toric form may be mounted solidly and permanently without risk of breakage. We refer to the AOCo Screwless Mounting. To be sure, you have been shown screwless mountings before and the proposition in a general sense is not new—except the AOCo Screwless Mounting, which *is* new—in fact, it is the last word in refinement on this subject. We have been very much alive to the need of such a construction. We have experimented with every conceivable design of strap. Now the final result is a strap that we feel sure will be most acceptable to the trade in every respect.

It is good-looking, inconspicuous.

It will accommodate flat or toric lenses.

It eliminates drilling, which saves power.

It eliminates screws and the attendant danger of mounting with screws.

It solves the problem of loose lenses once and for all.

It requires no special form of lens, no holes or notches.



Fits-U Eyeglass with Screwless Straps.

It reduces the danger of lens breakage to a minimum, thus making a splendid advertising feature for you, and a satisfied patronage.

It costs no more than the ordinary mounting in which screws are used.

The method of mounting lenses in A. O. Co.'s Screwless Straps is so extremely simple as to hardly



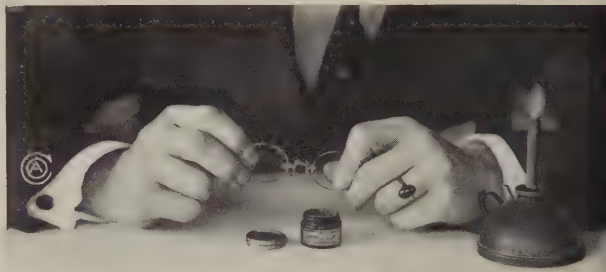
Heat strap end of lens slightly.



Warm the strap a trifle.



Dip lens in Lenstick.



Press lens in strap quickly and firmly.

require any extensive explanation. In order to make it even more elementary we are showing in a series of pictures the necessary steps of mounting the lenses with the use of Lenstick. It is first essential to wash the surface and edge of the lens clean, using alcohol or ammonia if it is at all greasy. Pour out a quantity of Lenstick into the cover of jar, to the depth of one-sixteenth of an inch, then heat the strap end of lens sufficiently to melt Lenstick Cement when applied. It is advisable to warm strap slightly before inserting the lens, as this over-

comes any possibility of the cement becoming chilled before it has had sufficient opportunity to adhere to the metal strap. Press the lens into strap quickly and firmly, holding it in position until cool, which will require only a few seconds. Any excess cement adhering to the metal or lens or side of strap, should be readily scraped off with a sharp pointed tool, care being used not to scratch either.

To remove a lens it is merely necessary to heat strap and lens slightly over an alcohol flame, when the cement will readily soften.

The Fallacy of Cheapness

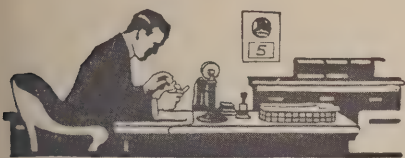
The bargain instinct is only too prone to bias judgment of values and render us mentally myopic. The law of supply and demand governs the cost of all optical staples.

"Let the buyer beware," runs the old saying in contract law. So it is with gold-filled lines. You have, apparently, seen some tempting bargains. The general appearance of the goods was excellent; the price most attractive. The fact that those who offer such "bargains" are still in business proves that the goods are profitable to them, which, in turn,

means that you get just what you pay for—perhaps less.

The use of cheap goods is a pretty poor investment for the man who hopes to face a growing list of customers in Nineteen Twenty-five. Safeguard the good will you have worked so hard to create. Use only dependable goods—goods you are proud to have your customers wear. There is one line of gold-filled goods on which you can bank your reputation as well as substantial profits: the AMOPTICO Flag Line 1/10 14K Gold Filled, with 1/8 14K Gold Filled Bridge and Temples.

Live dealers everywhere are getting the best trade with these goods. Will you "Follow the Flag?"



AOC_o Sterling Silver Cases Capture Customers



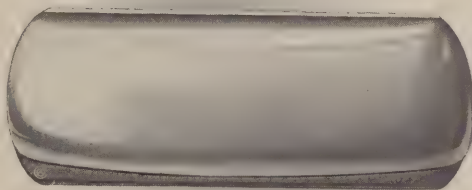
"My, but that's a handsome case," says your customer as he leans forward to examine one of the new AOC_o Sterling Silver self-closing cases. And he is right, too. You can heartily agree with him, for it is. Every one of them is a beautiful example of what can be accomplished by care in the matter of design and workmanship.

AOC_o Sterling Silver Cases are a new line that we announced for the first time in last month's AMOPTICO. They should not be confused with others that have been on the market before. As you will notice from the illustration, they are identical in shape and size to the popular flat-top model cases that have proved best-by-test when made in steel and leather. Ends are neatly fined down and the mid-section so shaped as to give a maximum of interior space with a minimum of bulk. The lining is a fine quality green silk velvet.

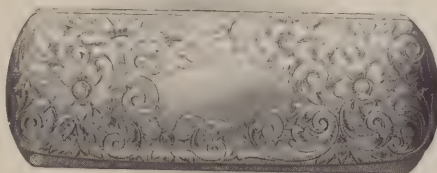
No matter what line of Sterling Silver cases you buy, you are, of course, paying part of your money for silver. If you pay a small price you probably get very little silver, and vice versa. AOC_o Silver cases are calculated to have just the required amount of silver to insure proper wear and stiffness without being uselessly heavy and consequently uselessly high priced. You can buy silver cases at all prices, but when you buy the AOC_o kind, you are getting full value for what you pay and not paying one cent more than is necessary.

Your customers will be quick to see the desirableness of AOC_o Sterling Silver cases, and sales should be very gratifying.

There is a choice of three styles and three sizes. Your jobber will supply you.



No. 325, for Spectacles.



No. 715-10 Silver, for Large Eyeglasses.



No. 705-15 Silver, for Small Eyeglasses.

Plain	Size	Trade Price Each
325 Silver	Spectacle	\$6.75
715 Silver	Large Eg.	6.00
705 Silver	Small Eg.	5.75
<i>Engraved</i>		
325-10 Silver	Spectacle	8.75
715-10 Silver	Large Eg.	8.00
705-10 Silver	Small Eg.	7.75
<i>Engine Turned</i>		
325-15 Silver	Spectacle	7.75
715-15 Silver	Large Eg.	7.00
705-15 Silver	Small Eg.	6.75

Complete Trial Set Catalogue

If you are beginning to think that your present Trial Set is looking a "little the worse for wear," it is time to send for the AOC_o Trial Set catalogue. Yours for the asking.

A friend of ours recently remarked that he thought we must be the Company that "put the tickle in Optical." He has had splendid success with our goods. We might add to what he said that we are also the Company that put the O. K. in Kryptok.





Quick Christmas Sales and Good Profits with the New AOC Co Sterling Silver Cases

A demand has arisen for Sterling silver cases; a demand not merely from one or two optometrists and opticians, but from a large number in all parts of the country.

There are many Sterling silver cases on the market now—of a sort—but the reason the AOC Co brings these new ones to your attention is that these are the *right* sort.

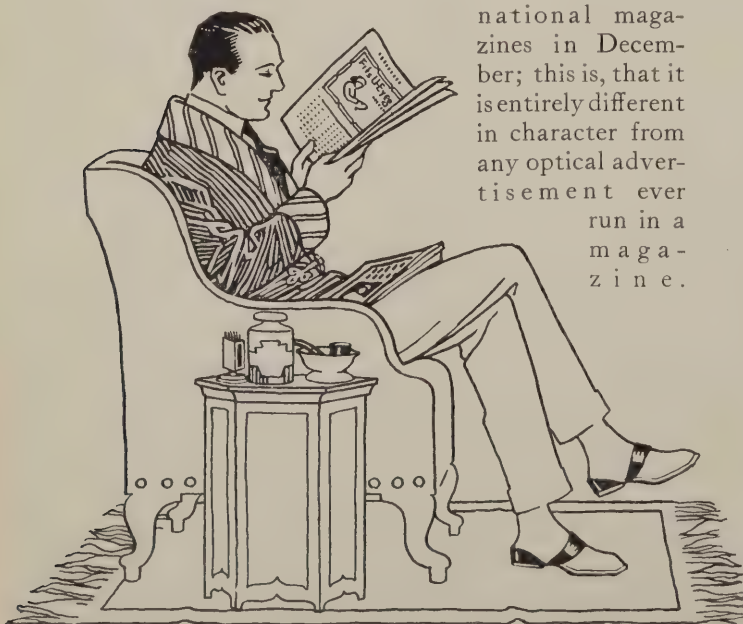
A case is salable only when it is perfectly adapted to hold glasses. We could make eyeglasses with beautifully engraved rims half an inch wide, but they would not sell. Sterling silver cases *have* been made that in some respects were beautiful examples of the silversmith's art. But—they lack that perfect design and appropriateness necessary to make them "sellers." Instead, they are too often "stickers."

Have you a friend in the optical business who does not now receive AMOPTICO? If you have we should very much appreciate it if you would write to us asking that he be put on our mailing list. We can then see that AMOPTICO is sent to him regularly. We will also be glad to write to him saying that it is because of your thoughtfulness that we are enrolling him as a regular subscriber.

How the AOC Co National Advertising Campaign Was Conceived

You will be struck with one thing when you read the AOC Co advertisement which is appearing in the

national magazines in December; this is, that it is entirely different in character from any optical advertisement ever run in a magazine.



Perhaps you will wonder why we chose this particular style and how we came to do it. There is a rather interesting little story behind the preparation of the campaign.

When our first plans for the present campaign were being discussed, it was early decided upon that we must have the coöperation of every oculist, optometrist, and optician in the country in order to make it really successful. Our problem was:—How can we make this coming advertising of the greatest possible benefit to every user of AOC Co goods? The answer was obvious enough:—Help them sell goods. Just *make* the people go into their offices and stores by the force of the advertisement. But the question was:—How to accomplish this? If we ran the usual style of advertisement, telling what a nice eyeglass the Fits-U was, and other goods bearing the AOC Co trade mark, it would undoubtedly have a great effect. It would bring the name "Fits-U" before the people and wherever they saw an optometrist with the Fits-U Eyeglasses displayed prominently, they would know that here was a man handling a national advertised product. But a large number of readers would merely dismiss the advertisement from their minds, and beyond remembering dimly that the "Fits-U" was a good eyeglass, they would take little definite action towards purchasing.

So we hit upon the idea of illustrating actual scenes in an office or store and having the oculist, optometrist or optician himself do the actual talking. In that way the impression which the advertisement gave would be not simply that "Fits-U's" were good eyeglasses but it would connect them definitely with the place where they were fitted.

An expert advertising man and an artist were detailed to visit a number of the dealers in New York with instructions merely to listen and see how American Optical Company's goods are sold to the public. The advertising man did this and the artist made sketches. The result was the series of advertisements which started in November.

"I would strongly recommend the Fits-U Eyeglass, madam," begins the first ad, written just as though *you* were talking to a customer who is not quite sure what kind of eyeglass to buy. So the copy continues. But notice this most important sentence at the end of the advertisement: "Ask your oculist, optometrist, or optician. He knows."

By thus actually reproducing an oculist's, optometrist's or optician's place of business and putting selling talk into the mouths of men who are actually selling goods and services, we are turning the thoughts of the people towards the places where Fits-U Eyeglasses and other AOC Co goods can be purchased. The campaign is based on the psychology of suggestion. Every advertisement reads with the tone of authority and we know if you will couple up your business to it, with the many dealer helps that we have to offer to you, it will surely mean increased business and added profits.

Varsity Ribbons Should Go with Varsity Eyeglasses, of Course



You remember the old poem that ran something like this:

"Apple pie without the cheese
Like a kiss without the squeeze."

Well, that is about the relation these Varsity ribbons bear to Varsity eyeglasses. When you sell one you can easily sell the other. Everyone who buys a Varsity needs a ribbon to go with it. We have a very pleasing variety from which to choose, made of fine quality grosgrain ribbon that will not fray at the edges or look cheap after having been

worn a short time. The slides and snaps are made in gold-filled, 10K gold and 14K gold, while snaps are made both perforated and solid.

We are illustrating representative styles here that will convey some idea of the wide choice you have.

Each ribbon is packed individually in a special tarnish-proof envelope that will keep the goods always looking fresh and clean.

Jobbers carry these Varsity ribbons and can fill your orders for them. When your next order for Varsity eyeglasses goes in, be sure that it includes a good selection of ribbons as well.

Cat. No.		Description	Per Dozen
Grosgrain	Moire		
875	865	Black	\$2.00
875-1	865-1	Black, with snap and perforated rectangular slide	G. F. 5.00 10K Gold 13.00 14K " 15.00
875-2	865-2	Black, with snap and solid rectangular slide	G. F. 5.00 10K Gold 13.00 14K " 15.00
876		White	2.00
876-1		White, with snap and perforated rectangular slide	G. F. 5.00 10K Gold 13.00 14K " 15.00
876-2		White, with snap and solid rectangular slide	G. F. 5.00 10K Gold 13.00 14K " 15.00
877		Black center, white edge	3.00
877-1		Black center, white edge, with snap and perforated rectangular slide	G. F. 6.00 10K Gold 14.00 14K " 16.00
877-2		Black center, white edge, with snap and solid rectangular slide	G. F. 6.00 10K Gold 14.00 14K " 16.00
878		White center, black edge	3.00
878-1		White center, black edge, with snap and perforated rectangular slide	G. F. 6.00 10K Gold 14.00 14K " 16.00
878-2		White center, black edge, with snap and solid rectangular slide	G. F. 6.00 10K Gold 14.00 14K " 16.00

They Put the "Come" in Comfort

"Here I am, right on the job. My motto is 'Safety First' for noses, and this very minute I am sitting under thousands of 'SS' spectacles bridges bringing relief to their wearers. I work it this way. I go into an optometrist's store and wait for a customer to come in who complains that his spectacles hurt his nose. Then the optometrist immediately gets me out and shows me off to the customer. 'Here,' he says, 'here is Mr. Zylocrest or Mr. Zylocrest Junior, if you prefer. I slip him under your spectacle bridge, bend over these little clamps and fasten him right there to stay. You see he has a broad surface, so he distributes the weight of the spectacles evenly on your nose and prevents them from hurting.'



mediately gets me out and shows me off to the customer. 'Here,' he says, 'here is Mr. Zylocrest or Mr. Zylocrest Junior, if you prefer. I slip him under your spectacle bridge, bend over these little clamps and fasten him right there to stay. You see he has a broad surface, so he distributes the weight of the spectacles evenly on your nose and prevents them from hurting.'

"So the customer says, 'Good, I'll take him,' and away I go to keep his nose from hurting, while the optometrist smiles and makes a bell go 'ding' on his cash register.

"Jobbers have me in stock. I'm made in three sizes; large, medium, and small. If you want me in zyloware, order me by name: Zylocrest. I cost \$9.00 a gross, and 'most every one will buy me. If you want me in transparent zyloware (Zylocrest Junior) with small gold-filled attaching arms, I cost you \$12.00 per gross. Believe me I'm a dandy little thing to keep on hand, and I'll sell myself a good many times in the course of a year."

Let Us Know

The postal authorities make no provision for forwarding third-class mail; therefore, if you change your address without notice to us you may not get AMEPTICO. Will you, then, keep us posted; in fact, look on the envelope in which this copy reached you and let us know whether there is any error in name or address? We will try to make AMEPTICO worth this trouble to you.

Goggles in Winter

Remember that goggles are all-year-round merchandise now. People who drive in coldest weather must wear some sort of protection for their eyes even though in some cases they may refuse to wear goggles at other times.



NEW GOODS *for* LIVE DEALERS



Liberal Profits in AOCo Varsity Eyeglasses

To be able to offer your customers the finest quality optical goods made today; to know that you are sure to make them your permanent patrons by the excellence of the goods you sell; and at the same time to know that every sale carries with it a liberal profit that will help to buy war-priced groceries: isn't that a "consummation devoutly to be wished?"

You cannot sell a Varsity—the solid gold or silver kind—to the man who has to count the change in his pocket before buying a package of spearmint gum. There is too much solid gold and expensive workmanship in every pair. Varsities go with good clothes and particular tastes. The more customers of this character you have, the higher you can boost your Varsity sales, and incidentally, your bank balance.

Varsities are "class" goods, and should be handled as such. When you display them in your window, make them look expensive. See that they have an exclusive air, a sort of knowledge of their own value. At every opportunity, see that they are brought strongly to your customer's attention. Point out with what wonderfully skillful workmanship they are constructed. Explain how long they will wear; how convenient and easy to wear they are; and particularly how distinctive and stylish they are. One's personal appearance is an asset that can be greatly enhanced by the proper kind of glasses,



about it can be

There are two folding styles in AOCo Varsities that will appeal

and a thorough demonstration of AOCo Varsities will be convincing enough of this point.

Varsity prices seem high in comparison to the price of other glasses. But point out the solid *value* of every Varsity and your customer's queries easily met.

ing styles and a non-folding style in AOCo Varsities that will appeal

Cat. No.	Description	Price per Pair		
		38 to 40mm.	42mm.	44mm.
No. 2712 or No. 2713	14K Gold, folding	\$9.50	\$10.00	\$10.50
No. 3712, No. 3713	Silver, folding	4.50	4.75	4.75
No. 3712, No. 3713	Silver, folding with Gold Spring	5.00	5.25	5.25
No. 2642	14K Gold, non-folding	6.50	7.00	7.50

particularly to your customers. We know this from their past sales records. One is illustrated here,

and you can note their differences. We call especial attention to the stiffness of the spring on the non-folding style, No. 2642, and the watch-like accuracy with which the folding styles close.

Your jobber can supply your orders for AOCo Varsities. Send a trial order for them and be convinced that they offer a splendid opportunity for liberal profits and satisfied customers.

Watch For It

Next month we are going to say something important in AMOPTICO about a new line of neutral tinted glass. Why not neutral lenses for Americans in these belligerent times?





Two New Sizes in White Zyloware Readers— Lower Prices Too

There is just one reason why we are adding two new sizes of "Ivory Zyloware" readers to our line: we know by the way in which the Big Chief of these goods—the three-inch-lens reader we announced a year ago—has sold, that you can make good profits selling these new sizes.

No elephant was called upon to give up his ivory dome (or tusks, more properly speaking) to furnish the material for these readers. In fact they aren't real ivory at all. They are the best quality of white ivory grained zyloware on the market, the cleanest, whitest, most attractive appearing made. Probably the movement in the direction of more sanitary appurtenances in the home is responsible to a large extent for the demand that sells these readers. Be that as it may, the demand is there and you can find it—if you look. The only way to find it is to let the people have an opportunity to prove it by actually showing the goods.

We have three sizes now, with a two-inch, two and a half inch and three-inch lens. Their technical description by which to order them is given here, and your jobber will fill your call for them.

Cat. No.	Style	Diameter	Focus	Per Doz.
R 5953	Ivory Zyloware	3-inch	+6.50	\$18.00
R 5952½	" "	2½-inch	+8.00	15.00
R 5952	" "	2-inch	+10.00	11.25

Improvement in White Zyloware Trial Frames

The sanitary white-zyloware trial frame we placed on the market some months ago has been a very real success, and orders have come in through jobbers for large quantities.

It is gratifying in view of its popularity to be able to announce that an improvement is now being carried out in its construction which makes it even more desirable than before. The entire front



is now made of one solid piece of zyloware with the exception of the scales. The new bridge is much larger and stiffer than the old, giving added rigidity to the frame.

We are making this Zyloware Trial Frame with double cells. Its unusual lightness and comfort in use make it an extremely valuable addition to every oculist's and optometrist's outfit. It actually weighs one-half as much as its prototype in metal. The price is \$2.00 each from your jobber, and they are very much worth while.

What D'Y'Mean— Filthy Lucre?

The following from a foreign catalogue of optical machinery printed in "English" explains some of the Selling and Delivery Conditions under

which you may buy the aforesaid machinery. Hashimura Togo has nothing on our esteemed contemporary.

"The committer has no reason to subsidize from the delivery-contract on account of little transgression of the delivery-time. If the transgression amounted more than one month the committer has only the right to subsidize from the contract under posture of an afterdate and to reclaim the rendered account under exclusion of any other claims. The retention of payments, any other for-pretension of the committer, also any reckoning up is excluded.

"If the committer remains in delay with decrease or rest-payment of the ordered wares, we can dispose otherwise three weeks after followed exhortation by inscrib-letter, over the object of the merchant-contract. The paid earnest money is then decayed, without that we want to prove an arised damage."

THE WAR IN AMERICA

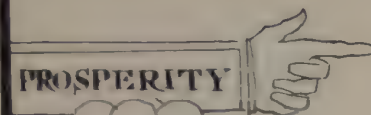
(From Collier's Nov. 14, 1914)

"Many authors living in poverty have been raised to affluence. Yesterday George Goldpack was arrested on Broadway for singing from the windows of a hotel he had just purchased. He was found to be the recipient of royalties from his publisher, who, in 1892, brought out his work entitled, 'German Silver and the Alloys.' "

We are neutral as to whether we make spectacles of German Silver or Alloys. It's for you to say what you want.

AOCo National Advertising is the keystone of the arch

But a keystone alone does not make an arch. Send for these January advertising helps and build yourself a solid business. AOCo is the keystone, across the River of Doubt, from Dull Times to Prosperity.





The Pipe Dream of Mr. Optic

"But then, why not?"

Mrs. Brown: "Oh! Good morning, Mr. Optic. I have just called to consult you about my eyes. They have been so troublesome lately. My husband told me to come to you, because you fixed him up so well a few months ago, when his eyes were troublesome."

Mr. Optic: "I am very glad to hear that he was satisfied. If you will step this way into the refracting room, Mrs. Brown, we will endeavor to see what is the matter with your eyes." (The lady seats herself in a comfortable chair, right opposite a Window Display Banner of the Rice Leaders of the World Association which hangs on the wall of the consulting room. The following conversation ensues.)

Mr. O: "Now, Mrs. Brown, please tell me what lettering you can read on that banner."

Mrs. B: "Why, I can see that it is a very beautiful design, and there is an emblem of some sort upon it, but I can't read anything on the banner except 'Rice Leaders of the World Association.'"

Mr. O: (Changing the lenses.) "Now look."

Mrs. B: "That is a little better. I can see, next to the Laurel Wreath on the white flag, the word 'Honor,' and on the golden flag next to the Wheat Sheaf the word 'Quality,' but that is all."

Mr. O: "Humph! Slight astigmatism." (Tries another lens.) "What can you see now, Mrs. Brown?"

Mrs. B: "Oh! That's beautiful. Isn't it a perfectly lovely design? I can read every word of it. On the red flag, against the Lion, is 'Strength,' and on the blue flag, against the Messenger, is 'Service,' and at the top 'Be Guided by this Foundation.' Isn't that a beautiful thought—Honor, Quality, Strength, and Service. And what is that underneath?—'Founded A. D.'—I can never read those letters. What does it mean?"

Mr. O: "Well, the question is really, can you read it? rather than what it means."

Mrs. B: "Oh! I can see the letters quite distinctly; they are 'M-C-M-X-I-I-'"

Mr. O: "Well, those are the Roman numerals for 1912."

Mrs. B: "Oh! I see. Founded in 1912. I have seen the announcements of this association in the *Saturday Evening Post* and

the *Ladies' Home Journal*. And on the tablet they have all the names of the large firms which have been invited to membership, don't they?"

Mr. O: "Yes, that's right. Can you read the small lettering above the names of the firms?"

Mrs. B: "Oh! Yes. Quite distinctly." (Reading.) "There is a firm there, I see, American Optical Company, of Southbridge, Massachusetts, and they make 'Spectacles, eyeglasses, lenses, 'Fits-U' and other optical goods.' That's quite in your line of business, isn't it? Do you sell these 'Fits-U' goods?"

Mr. O: "Oh! Yes, certainly. For years past I have considered them the very best on the market. I should not dream of offering you any other. In fact, now that we have found just what is the matter with your eyes, if you will step out into the other room, we will see if we can fix you up with a pair of 'Fits-U' eyeglasses."

Just then, the seven o'clock whistle blew and Mr.

Optic opened his eyes with a start. "Oh! well," he yawned, "Why not? I certainly could use it a little if I hung it in the right place, and it would tell 'em I sell some pretty good stuff, too. Me for it!"

We are glad to announce that by special arrangement with the Rice Leaders of the World Association, dealers in American Optical Company goods will be privileged to display the Association Window Display Banner in their consulting rooms.

This concession is made especially on behalf of those dealers who have no windows in which to display AOCO products in the Association Window Display Contest.

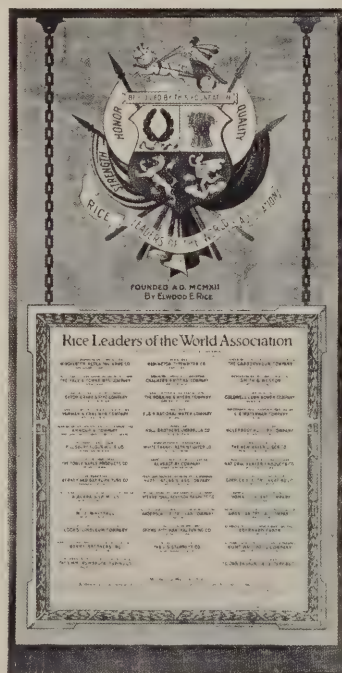
The Banner itself is a handsomely illuminated specimen of printing, and carries the Emblem of the Association in natural colors, together with the full list of present members.

Dealers in AOCO's products should avail themselves of this unusual opportunity for adding prestige and distinction to their stores or offices, and write at once to

Window Display Department,
Rice Leaders of the World
Association,
358 5th Ave., New York, N. Y.

The Banner will be sent by return mail.

Applications should be made by dealers upon their own letterheads, mentioning this notice in AMOPTICO.



GET THIS BANNER INTO YOUR WINDOW DISPLAYS

It will enable you to compete for the big cash prizes, aggregating \$10,000, offered for the most effective window by the Rice Leaders of the World Association. If you have not received your banner write immediately to the Association headquarters, Fifth Avenue and Thirty-fourth Street, New York City.



Amoptico

Amoptico

Reg. in U. S. Pat. Off.

Vol. III December, 1914 No. 9

Published Monthly by
American Optical Company

1833-1914

Channing M. Wells President
Albert B. Wells Treasurer

J. Cheney Wells
Vice-President and Secretary

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Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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Our Message to Live Dealers

WE are putting some of the best grey matter of our advertising, sales and manufacturing staff into AMOPTICO. Many of our readers have been shrewd enough to see it and to act. We can and we will go on with our monthly suggestions on new goods, old goods, and advertising and selling problems, to help the oculist, optometrist and optician. There is ample evidence that the expense we are going to in this work is repaid in actual support by the profession and trade who are giving preference to AOCo goods; and advertising would never sell the goods if the goods did not merit it—remember that.

There are many in this business who are not taking AMOPTICO seriously enough. We do not expect to interest everybody. But the man who does not weigh carefully what we offer to him is overlooking an opportunity

which perhaps his neighbor is quick to grasp. That neighbor may have written us first out of curiosity. We have since been able to convince him that our plans are business-producing ideas that bring him actual, bankable profits.

We help anybody who supports AOCo goods. Our helps are given generously and they are bringing results. This is a business proposition for you and for us. Read this letter; it is one of a great many that we are constantly receiving:

"Dear Sirs:—

I have been puzzling my brains all the week trying to think up something as a model for my window to display the different style eyeglasses and spectacles on that would be suitable to attract attention and at the same time call particular attention to the different points I wished to demonstrate; and I have been far from reaching a satisfactory conclusion until this morning along comes my AMOPTICO with the very thing already prepared and gotten up by you in the shape of the AOCo Model Man; so I am ordering one at once to be shipped by freight through the New Orleans Optical Co. My order goes to them with this mail.

Another useful thing in this issue is the Lokscru set which I am also ordering; and placing a special add in my local paper calling particular attention of my customers to this new innovation. These instances only serve as a demonstration of the helpfulness of the AMOPTICO which is always chock full of valuable information for wide-awake Optometrists.

You are to be congratulated, and every optometrist should appreciate the many good things you are constantly doing for his interest. I am yours with esteem,

J. E. BRIGGS,
Bay St. Louis, Miss."



Sales Thoughts of An Optimist

There are certain side lines or specialties which, while not spectacles or eyeglasses, are legitimate optical goods and have the virtue of carrying a nice profit with frequent turn-overs. AMOPTICO mentions some of these in almost every issue—one way to keep the sales ahead of the rising costs.

One good thing about "circular lettering" for customers: you are not making your publicity so well known to your competitors. You may be able to dig in deep and pull out some of his good trade before you are discovered.

Did it ever occur to you to "make the punishment fit the crime" as the Mikado did, and write your circular letter to fit the needs of the person getting it? This can be done in cities where the population is large enough to classify. Write an appeal to school teachers, to lawyers, dentists, storekeepers, and so on. It is surprising how much more effective a letter is that recognizes the occupation of the recipient and talks about something especially useful in his particular work.

Take a leaf from the notebook of the professional window trimmer. Put a very small and carefully selected and arranged line of goods in your window and change it frequently. Do not emulate the pawnbroker.

You may be located on the same street with one or more department stores. Almost every one of these places a fixed value per day on its window space which is charged up to the department using the window. Your window must be worth as much or nearly as much per running foot. Whether you get value received out of it depends on what you do with it.

Concert announcements and lawn party ads in your window don't sell many spectacles for you. If your window space is worth something to the Y. M. C. A. two blocks away, how much more is the same space worth to the man in the store back of the window?



The Tide is Turning

We have consistently preached better gold-filled goods through these columns ever since AMOPTICO was launched. That message was "put over" with a percentage of the trade, which made our work worth while for everybody. The "Flag" line of 14K Gold Filled goods came, and it stayed. Those who have used it know why they are still using it. On the other hand, lots of people said (and some thought without saying so) we were wrong; that



there was no need of better goods; that the existing lines in other qualities were good enough.

Let us see what was the result; a manufacturing scramble for the lower-priced, staple lines of 1/10 12K and less sent prices down, and quality, like Jill, "came tumbling after."

Now this condition reached the point where everybody lost, particularly the dealer who, tempted by low prices, loaded up on more or less unsatisfactory products. The trade have had enough of that sort of thing. Sadder and wiser for their experience, they are returning with the tide of demand for the goods on which they can bank their reputation and make a cosy little profit while building for permanency of their business.

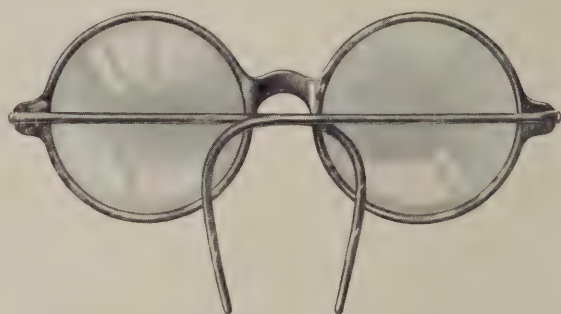
The public want fair play for their eyesight. We have been through all that in the lens situation. The remarkable increase in the demand for high quality lenses proves it. In frames and mountings the higher qualities of gold-filled are coming into their own. The future looks exceptionally good to everybody in this business who has joined the army mobilizing under the "Flag." Ask any jobber about the AOCO "Flag" Line of 1/10 14K Gold-filled superior spectacles and eyeglasses having 1/8 14K Gold-filled bridge and temples.

Why Zyloware for Winter Glasses

It is a fact, which most persons who wear spectacles will admit, that a metal frame or mounting is not always the most comfortable thing in the world to wear in very cold weather. Zyloware spectacles and goggles fit in here, and, as F. P. A. says, "fill a

l. f. w." Zyloware goggles do not have that cold and "clammy" feeling, especially if they fit well (as the AOCO makes do). That's a selling argument for you that will move these zyloware goggles from your window out upon the passing auto drivers and passengers. Ask for AOCO Zyloware and look for the little monogram on the endpiece.

Cat. No.	Description	Per Doz
R 617	Dark Shell color with Micoquille Amber Lenses	\$15.00
R 637	Amber color with Micoquille Amber Lenses	15.00
R 647	Light Shell color with Micoquille Amber Lenses	18.00



AOCO Zyloware Goggle.

Change in Trial Set Cylinders

For several years there has been a growing demand for trial set cylinders without matting or frosting and we have made many sets to order with this improvement.

Leading oculists and optometrists claim that the frosting on the cylinders of the trial case is a real detriment as it interferes with distinct vision and is a source of serious distraction and annoyance to nervous and hypersensitive people.

This is particularly true when the axis of the cylinder is in the horizontal zone. In other cases when the patient is not at all nervous it may vitiate to some extent the examination. There may be no mention by the patient of the "white cloud seen at one side" but it would doubtless be better if it was not there.

In any event the matting serves no practical purpose. It has been handed down to us by our forebears and is a relic that can be eliminated from our testing lenses. It is true that in a general way the frosting coincides with the axis and might in the fast-disappearing test of "near enough," serve to indicate the angle of the axis, but to the painstaking refractionist of today this would be unsatisfactory.

In view of the foregoing we have, after careful consideration, decided to omit the frosting on the cylinders of all our trial sets in the future, unless otherwise ordered. In so doing, we believe we are improving our test lenses and thereby serving the best interests of users of our trial sets. Of course, the marks indicating location of axis will appear on all cylinder trial lenses the same as heretofore.



What Webster Says About "Reliability"

Did you ever think of using the word "trustworthy" when describing gold-filled goods? Of course, you have seen the word "reliable" used many times, but somehow that word "trustworthy" seems to have a different "ring" to it. Webster's Dictionary tells us they are practically the same, however; when a thing is reliable it is trustworthy—worthy of trust.

Assays of gold-filled goods are all right. They prove whether or not what you buy is up to standard.

But there is one thing better than assays.

That is, buy gold-filled goods so worthy of trust that you do not *need* to assay them. Your confidence will not be misplaced if you will tell your jobber to



send you AOCo gold-filled spectacles and eyeglasses. The AOCo makes its own gold-filled stock, knows that it is up to standard and guarantees it to be trustworthy.

On your next order to your jobber ask him to send you the gold-filled AOCo Fits-U Luxe eyeglass shown above.

Cat. No.	Description	Per Doz
03121	1/10 12K Fits-U Luxe Patented (Ovalex) Spring with upper clamping pad and lower bearing pad	\$7.50

"2121 Perrysville Avenue,
N. S. Pittsburgh, Pa.
Nov. 6, 1914.

AMERICAN OPTICAL COMPANY,
Southbridge, Mass.

Dear Sirs:—

You will no doubt be interested to know how the timely arrival of your advertising circulars so reinforced our lines that our enemy, "Bum Business," was completely routed in the short space of twenty-four hours.

Business was very quiet and the prospects of its changing for the better seemed none too good, but just at that time along came your circulars and touched the thing off as if by magic.

For instance, one lady said she "had intended to come up some time ago but had forgotten the address;" but when she received that circular she realized that what it said about her eyes being her most precious possession was true so she was not going to take any more chances but came at once.

That sort of thing has been going on ever since, thanks to the advertising department of the American Optical Company.

Very truly yours,
(Signed) McCONNELL BROS.

P. S. Am enclosing one dollar for another 1,000 blotters advertising Fits-U mountings; can't be without them."

This Preachment is for the Man who has Kryptok Blanks surfaced in his own Shop



Many well-meaning people think that a Kryptok blank must always be a sort of gamble and you will never know your luck or breathe freely until you have it finished and delivered. That is not true—if you use AOCo Kryptok blanks.

THESE ARE THE REASONS:

- We use perfect crown and flint glass stock to start with. It is tested and must pass inspection for index, color, clearness, temper.
- We control the grinding of counter-sinks; all a uniform size and depth for a given blank.
- We control, absolutely, the heat in the fusing and annealing process. Results are identical.
- Finally, every blank is given a rigid colmascopic test for molecular stress. Every blank is clear and transparent. Every addition is neutralized.

When you grind Kryptoks from AOCo blanks your results are certain in advance. This is actual insurance against losses due to delay and unnecessary labor. One of our customers has actually figured a saving of one hundred dollars a month cold cash by using AOCo blanks. Time and labor is money to you no matter how you figure.

MORAL: Use AOCo Kryptok Blanks





A Short Lecture on Lenses

Gentlemen all, this a lecture! We tell you first so you will be sure to know.

There are not enough of you using the wonderful AOCo Uni-Bifo (Luxe) Onepiece Bifocals in your daily work. Now we don't mean that we are not selling many, for we are, and sales have evidently got in mind the purpose of bumping the clouds before long. But just the same, more of you should be specifying them.

We (editorially speaking) heard a lecture on psychology the other evening in which human nature was pretty well hashed up into its component parts. He (the lecturer) divided us up into sundry divisions, one of which he called "will power." Then he further separated this into "ambition" and "inertia," showing how much of our lives were allowed to slip by heedlessly because of Old Man Inertia.

Now then, isn't it partly a case of inertia on your own part if you are not using Uni-Bifo (Luxe) Bifocals? of innocuous desuetude, so to speak? (Look that up after the lecture.)

Here we have a lens that absolutely cuts out chromatic aberration; that has a practically invisible segment; and that can be ground thinner than any other form of bifocal. Furthermore, it is sold on

a restricted price basis that is sure to mean big profit to you on every pair you sell.

The AOCo Uni-Bifo (Luxe) Bifocal is the culmination of years and years of patient endeavor to grind an optically correct bifocal on one solid piece of glass. It is a lens you can recommend under all circumstances.

Shake off the lethargic lassitude that holds you to a monotonous round of daily tasks.

Put new life into your business.

Take a good firm grasp of your fountain pen and send in your orders for AOCo Uni-Bifo (Luxe) Bifocals to any jobber who holds a finishing license.

AOCo Zyloware Spectacles

The call for Zyloware Spectacles continues with unabated vigor, and we are glad to push along the sale of the most comfortable easy-to-wear library spectacles now on the market. You can recommend AOCo Zyloware Spectacles with every assurance that many of their advantages are not to be found in any other makes.

Riding Temple Frames			Straight Temple Frames		
Cat. No.	Color	Per Doz.	Cat. No.	Color	Per Doz.
R 117	Dark Shell	\$7.50	R 113	Dark Shell	\$7.50
R 127	Black	7.50	R 123	Black	7.50
R 137	Amber	7.50	R 133	Amber	7.50
R 147	Light Shell	10.00	R 143	Light Shell	10.00
R 157	Crystal	8.50	R 153	Crystal	8.50

The Right and The Wrong Way to Open AOCo Cases



Did you ever notice that the right-hand corner of the cover on an AOCo case always projects slightly beyond the lower pocket? It's a fact, as a glance at one will show; and it has been constructed in that particular way to make it easy to open.

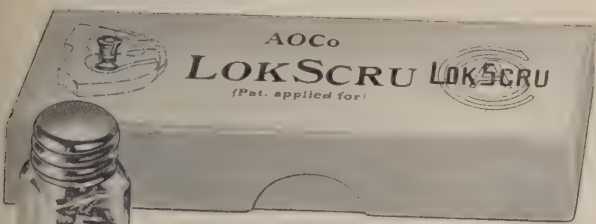
There is a right and a wrong method of doing everything. In this instance the right method of opening an AOCo case is to raise the cover by pressure of the thumb under the right-hand corner of the cover. The slight projection makes

this a perfectly natural and easy means of doing it.

A knowledge of this little point, and the telling of it to your customers will help to make your "service" a little better than that of the next man, perhaps; and it is these little services that lead to the bigger business.

Be sure hereafter that everyone gets an AOCo case of you and understands how it should be opened and he will be "as pleased as Punch" to see how convenient it all is.

No Loose Lenses When You Use The LokScrew



Just replace the old glass screw with a new LokScrew and the lens will never work loose again. Does it sound interesting? It should, for the LokScrew is a sure cure for all loose lens ailments.

For a long time we have been working to secure some form of fastening that would mean permanently

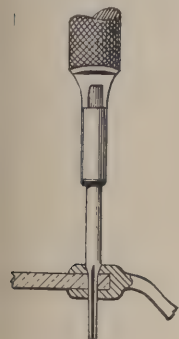


FIG. I

insert the new screw—the LokScrew—from one side, its little locking nut from the other, and screw it up tight. You can guarantee to your customer that

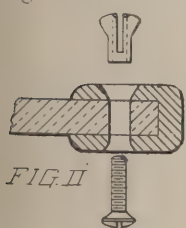


FIG. II

the lens will never work loose again, and send him or her out with a degree of satisfaction that will mean increased business in the future.



FIG. III

The LokScrew itself is extremely simple. It consists of a plain glass screw, and a small split nut made slightly larger than the ordinary strap and lens hole. The reamer supplied very quickly drills out the worn hole to the proper size and this allows the nut to slip into place, just level with the strap. When the screw is inserted from the other side and engages the nut, the pressure caused by the setting up of the screw draws the nut downward into its countersunk hole and squeezes it together until it becomes immovably locked. The process is simplicity itself, a few tries enabling any one to adjust it with rapidity and accuracy.

Your jobber can supply you with the LokScrew outfit, containing full instructions as to its proper adjustment and use. The price is \$2.00.

The prize of bigger business goes to the man with enterprise. Don't wait for some one to tell you how good it is. See for yourself.

Twenty-Five Years of Trial Set Making

You want a new trial set. The old one is perhaps worn until it is rather shabby: the rings are tarnished and loose; some of the lenses are scratched, chipped or broken.

Take action about it now. Send for the big new catalogue of trial sets that we have just completed. There you will find pictured and described sets of every description, to fit every purse.

Away back in 1889 practically all the trial sets in use were of European manufacture. In that year the AOCo entered the field. Since then AOCo trial sets have gained the market until they are now recognized everywhere as the world's standard. Cheaper foreign labor and lower cost materials were unable to down AOCo quality.

Today our line embraces trial sets of every description. Hardwood cases are made in a variety of finishes to make it possible to match the furnishings of your office. Leather covered dress-suit case traveling styles may be had with either heavy seal grain or tan sole leather as desired.

In the twenty-five years we have made trial sets it has been our one aim never to be satisfied with what we have done. It is this spirit of progressiveness that has brought AOCo sets to the front wherever accuracy and efficiency are insisted upon.

Send for our new catalogue and see what a wide range of styles and sizes there are for you to choose from. Your jobber can fill your order.

We Try Anything Once, Even the Hotel Business

We are supposed to be always upon our toes ready to tackle any job that will help AOCo to better business. A recent forward pass took us into the hotel business with both feet. Here is a picture of the AOCo hostelry for young lady employees. One of the problems of the big manufacturer today is to know that his employees are all comfortably housed.





Our Chicago Office in New and Attractive Quarters



A change of particular interest to our dealer friends in and around Chicago is that which has been made by our Chicago office during the past month. We moved from the People's Gas Building, at 122 South Michigan Boulevard to the "Mallers Building" at No. 5 South Wabash Avenue. Our

office is on the twelfth floor.

We believe that this change will be very beneficial in that it brings us some blocks nearer the business center, and makes our office accessible for visitors who wish to see the splendid display of optical goods that is always there.

We extend a most cordial invitation to every oculist, optometrist, and optician to visit us at our new office whenever circumstances permit. Our Chicago manager, Mr. Frank N. Kreissl, will be glad to meet you there, and make your call an instructive as well as a pleasant one.

Advertising Campaign to Parents of School Children Wins Again

Ella C. Meade, of Albany, Oregon, was quick to take advantage of our offer to supply material for advertising her service to parents of school children and she reports that it has brought her splendid success. Her way of using the window display was quite unusual, with the natural result that it attracted much attention. In fact she asks for a further supply of circulars to continue the good work. This is advertising that pays:

"The display and newspaper cuts are splendid. I had a large window card made, bought a *real* slate just like your cards, copied the wording of one in chalk, fastened it to the card and said: 'Now is the time to have your children's eyes examined.' This I hung at the end window with your cards in the front window. Result—I am fitting all the school children.

Sincerely, ELLA C. MEADE."

Free Window Signs for Winter

In our mailing room we now have hundreds of signs of a wide variety, just waiting for the opportunity to stand up in your window or in your show case and tell the people that you sell optical goods. They are doing less good in our mailing room than they would in your window. Why not make a move to *put* them in your window? It is impossible for us to illustrate all of them at one time, but we have classified them here in order that you might know just what we have available for your use. If you will tell us what kind of sign you want, we will do our best to see that your requests are given immediate attention and signs started on their way to you at once.

Fits-U Signs.

We have a wide variety of signs advertising Fits-U Eyeglasses, varying from six or seven inches to ten and twelve in size.

Kryptok Signs.

A splendid transparency to be stuck on your door or window awaits your request, printed in blue and gold. It makes a handsome, prominent advertisement of a popular bifocal lens.

Opifex Signs.

A transparency for your door or window advertising the well-known Opifex Bifocal. If you are selling these you should send for the sign.

Goggle Signs.

AOC goggles are known wherever motor glasses are sold. We have two stunning designs, handsomely colored and finely printed. They are an embellishment to any window.

Polished Aluminum Case Sign.

This sign is unusual in that it is arranged so that two polished aluminum cases may be actually attached to the front of the sign by an elastic arrangement. It is printed on a handsome gray board in red and black ink.

Safety Bow Sign.

A silent salesman showing graphically the advantages of the popular AOC Safety Bows. It is yours for the asking.

Make this fall a real revival in your business. Attention compelling windows will be one of the best forms of exhorters we know. You can secure them by the use of AOC signs. Take action today.

About Your Booklets and Circulars

Almost every day brings us one and often many booklets, pamphlets, or folders which are sent to us by our friends the optometrists and opticians, in order that we may see what kind of advertising they are doing. It is always pleasant to receive them. Frequently they contain ideas that are very valuable. Yet it is interesting to see what a variety of shapes, sizes, colors and qualities there are. No two are ever even approximately alike in appearance.

Just a word about them, though. Many of them seem to us to be far too long to secure maximum advertising results at minimum costs. One now upon the writer's desk contains twenty-four pages, another eight; and while the longer one is filled with small illustrations, there is nevertheless a vast amount of reading matter.

There is a limit to the amount of "copy" you can get your prospective customers to read. What that limit is, no one can tell exactly. It depends for one thing entirely on the interest the "copy" contains. But the best plan is to be absolutely as brief as you can. Six pages is usually too long for ordinary circular purposes. Four is better. Instead of trying to crowd all your facts into one booklet, try dividing them into several, and sending them out at stated intervals. This method will be cheaper, will keep your name before your prospective customers longer, and insure your "copy" being more thoroughly read and digested.

The improved AOCo Edging and Surfacing Machines have taken Optical Shops by storm

WE CARRY ONLY THE GENUINE MATERIAL
WHOLESALE ONLY
HOUGHTON-REARDON CO.
WATCHMAKERS AND JEWELERS' SUPPLIES
TOOLS AND MATERIAL
MANUFACTURING OPTICIANS
DALLAS, TEXAS. Sept. 15, 1914.

208

American Optical Company,
Southbridge,
Mass.

Gentlemen:-

We have your letter of the 8th inst. with reference to the M-72 Automatic Edging Machine and M-21 Surfacing Machine.

We are very pleased indeed to advise that we have been using this Automatic Edging Machine for the past six months and find them by far the fastest we have ever had any experience with.

We are perfectly frank in saying that we prefer this machine to any other on the market, especially in view of the fact that it is so substantially built there being no small parts which will quickly wear.

We also had you make a battery to two Surfacing Machines which have proven very satisfactory indeed, and should we at some future time decide to add more of this class of machinery, we would not hesitate in ordering a duplicate of the one we already have.

Yours very truly,

HOUGHTON-REARDON COMPANY.

Per [Signature]
Vice-President

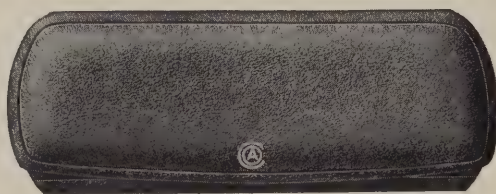
HNL..FP.

From all over the country we have received testimonial letters, telling us what splendid service AOCo edging and surfacing machines are giving. The Houghton-Reardon Co., whose recent letter we reproduce here, bought an outfit from us some time ago. *Two months afterwards we received a reorder.* This last letter explains better than could any long sales talks of our own why they reordered.

If you are in the market for optical machinery of any description, from a single small hand machine to complete automatic outfits on the largest scale, we can supply your needs and give you the very best. We ask you to write to us or to your jobber for full particulars about AOCo machines. Tell us what you need and we will tell you what you ought to have. Get your machines, through your jobber, from headquarters.

AMERICAN OPTICAL COMPANY, Southbridge, Mass.

The World's Best Spectacle and Eyeglass Cases



All water grain leather cases are not "J" leather cases. "J" is the symbol or catalog letter indicating AOCO *water grain* leather—and there's an important difference.

Why is there a difference? Because the AOCO uses only the best water grain leather on the market for cases. The AOCO is the largest consumer of leather for case coverings. A million square feet a year does not fill the demand for AOCO cases; consequently, in the leather market the AOCO gets the best hides, the first selection; only perfect skins carefully picked out by one of its own leather experts. That is one reason. There's another.

Every piece of leather for each individual case is cut from the hide by a skilled operator who knows leather, and who selects each piece with reference to the direction and quality of the grain. Any pieces showing imperfections such as scars, shot holes, scratches or stains are rejected—scrapped.

If you will remember these facts when you buy cases and bear in mind, too, that it is a matter of insurance to you to specify distinctly, that you want AOCO "J" (water grain) leather cases, you will always be satisfied.

705 J for regular Eyeglasses
715 J for large Eyeglasses
325 J for Spectacles

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

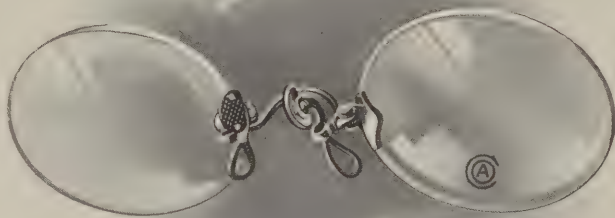
Vol. 3

January, 1915

No. X

"ALL ABOARD"





A Prediction

AOCO Screwless Mountings

We believe in a cemented construction for rimless mountings. We think it is here to stay. Whether we are right or not remains to be seen. For the present the man who is courageous enough to try a new proposition should feel that the AOCO endorsement carries with it some assurance of success.

We did not rush into this field without a thorough study of the several problems presented; so we feel that the AOCO construction is the safest proposition for you to tie up to.

A screwless mounting is the logical step. The time has come to take that step. The AOCO Screwless Mounting is an advance in the right direction so far as a judgement based on eighty-odd years of cumulative optical experience is able to point the way.

If you believe with us that this is your opportunity, then you will be particularly pleased that we are able to announce that

The AOCO Screwless Construction will be supplied on all styles of AOCO rimless goods in all metals and qualities at

No Extra Charge Over Regular Prices





The Inauguration of Sir William Crookes Glass and The New Year

You Have Been Waiting for Both—Here They Are



OUR pleasantest duty in many a day is to write the introduction of the New Year and Crookes Glass under the same caption in this number. It is one step in the right direction.

Sir William Crookes needs no introduction to thousands of people. As one of the foremost scientists in the world, his part in the discovery of the X-Rays, and now of Crookes Glass, has brought him forcibly to the attention of the public.

With keen appreciation of all the factors involved and the problems confronted, therefore, we consider it fortunate indeed that he should be the first to produce, and we the first to market, this product, after six years of exhaustive laboratory experiment and research. That he succeeded through all the vicissitudes and disappointments that go hand-in-hand with research work is a distinct credit to him and a manifest advantage to us. What this means in terms of your advantage is that after a great expenditure of time, money, and energy you are provided with a colored glass on which you can make a splendid profit while supplying a long-felt demand for a scientific colored glass, which would be safety-proof against the much maligned ultra-violet ray. The prestige of such a glass under such a name, with all its implied wealth of experience and knowledge, should go far to ensure its success. So should you when your profits are thus assured.

First, however, before we enlist facts to prove its superiority to you beyond our mere say-so, we



Sir William Crookes

Born: June 17, 1832, Chemist and Physicist. Studied chemistry and later became assistant (1851) at the Royal College of Chemistry. Assistant, meteorological department of Radcliffe Observatory, Oxford. Discovered thallium and monium. President British Association (1898). Knighted in 1897; received Royal (1875); Davy (1888) and Copley (1904) medals of Royal Society. President of Chemistry Society and Institution of Electrical Engineers. Mostly independent research work since.

must begin with the conditions out of which Sir William Crookes arose, successful.

Discovery of Injurious Rays in White Light.

They began with the discovery that certain chemical or ultra-violet rays in the spectrum had an injurious effect on the mucous membranes of the eyes. Precedent to and leading up to this discovery, however, there were several steps of experiment on these rays. It was found that they would change the colors of various materials, such as glass, would bleach hair and different tissues, and also destroy bacteria, thereby sterilizing food.

This last named property led scientists to investigate the action of these rays on human tissues, and it was found that electric ophthalmia, a form of inflammation of the mucous membranes of the eye, was chiefly caused by these rays. From this knowledge can be traced the inception and use of all colored glass down to Crookes glass, which has successfully passed every ophthalmic test that human ingenuity can devise for it. But the development of

Crookes glass was slow. It was accompanied in its course by the more or less exhaustive research of other scientists, the unscientific prescription of all kinds of colored glass by others and in general by the non-scientific manufacture of shaded glasses.

The Beginning of Popular Demand.

Gradually the layman began to learn about ultra-violet rays. The general public had instinctively



*The Entrance of
Sir William Crookes.*

realized for a long time, without knowing anything about ultra-violet light, that it was pleasant and restful to wear glasses of certain tints and colors. The colors were usually selected either because someone said such and such a color was good or because this or that color happened to be in fashion.



For instance, green was the first colored glass worn because green vegetation was known to be restful to the eyes to look upon; hence it was thought that a green glass would have a similar restful effect. However, green went out of fashion and next, blue glasses of the same color as the sky were used, doubtless because they were pretty and easy to make. These were not restful and their popularity was of short duration. Next came a neutral tint of so-called smoke glass, and this probably supplied the popular demand for a longer period than any other.

It was noticed that windows in very old buildings had been transformed into a sort of amethyst tint by the sunlight of many years, so amethyst glasses were produced and doubtless the wearers were persuaded that they were benefited. Doubtless other colors, red and yellow, were probably worn to some extent; but all these glasses were produced without proper scientific reasoning behind them. Popular demand was now accelerated, however, and all sorts of colored glass was used on the hit-or-miss idea that most any glass would do as long as it was colored. Many of these non-scientific colors are still used. This brings us now to

The Period of Scientific Experiment.

The popular demand soon focussed the attention of scientists on the subject. Then began the period of close experimentation. In 1887 the Germans trained their minds on the subject and Dr. Fieuzal produced the first scientific glass which bears his name, and still has great and deserved popularity. Others followed; amber was found to be excellent, and great progress was made up to the year 1909. The best minds were all intent on the problem of how to invent a glass designed to absorb ultra-violet rays and at the same time let in the light as usual, retain the natural colors of objects, and keep the field of vision clear. But to accomplish this was a difficult task. Most of the glass produced had grave defects; it cut out most of the ultra-violet it is true, but in doing so it also cut out considerable light so that one could not see clearly through it. Then too, it was often so dark in shade as to be unsightly, a fact which discouraged its use. The public was forced, therefore, to make the best of a situation and accept that glass which least hindered the normal vision while destroying the harmful rays.

It was the search for a colorless, scientifically correct glass, capable of letting in light and destroying ultra-violet rays at the same time, that now leads us to Sir William Crookes. His work began in a slightly different field—heat rays—at the invitation of the Royal Society in 1909. His researches on heat rays soon carried him far afield into the different realm of chemical ultra-violet rays, and upon this latter subject he put all the benefits of his vast experience, and the keen analysis of a razor-edged intellect. His endeavor was to make a glass which would not alter the colors of natural objects or be so dark as to hinder the vision.

Heat Rays and Violet Rays.

A word of explanation as to what are heat rays and chemical rays may not be out of place. When sunlight or any artificial light such as the light from an electric arc is allowed to stream through a narrow slit in an opaque body, a beam of what is called white light is observed. If now a lens is placed in the beam, the rays will be brought to a focus; and then if a prism is put at that focus, the path of the beam will be diverted from its course, and can be thrown upon a screen not as white light, but split up into a colored band, like a rainbow.

This colored band is called a spectrum, and the colors appear in the following order: red, yellow, green, blue, and violet.

These colors can all be distinctly seen, but in addition there are present in that spectrum invisible rays. At the red end, these are called infra-red or heat rays, and they can be detected by a sensitive electric thermometer called a thermopile. They stretch out some distance beyond the red end of the visible rays.

At the violet end there are invisible rays called ultra-violet or chemical rays, and these can likewise be detected by their chemical action on a photographic plate; also by the fact that they possess the property of causing certain organic substances like quinine to become fluorescent.

Having then a ready means of testing for these rays, it becomes a simple matter to interpose sheets of glass between the source of light and the spectrum and see what rays are cut off. By refining the apparatus used for these tests, the amount of the invisible rays at each end of the spectrum and the amount of visible rays that are cut off can be accurately measured.

Crookes' Problem.

The problem before Sir Wm. Crookes was, therefore, to produce a glass which, by these measurable



tests, should prove itself able to cut off the ultra-violet chemical rays from one end of the spectrum and the infra-red heat rays from the other *and yet not reduce the amount of visible light.*

Crookes' Method of Attack.

How did he attack the problem? In the preparation of his glasses he made a clear colorless glass to serve as a basis, within which he incorporated various metals in combination with oxygen or other convenient substances. Not including the preliminary tests Crookes made up over 300 different mixtures, the compositions and optical properties of all of which were accurately determined. This was at last a scientific, accurate way of attacking the problem. But let's see what results there were.

After experiments extending over many months, certain metals were chosen which gave promise of good results, if combined with each other so that the advantage of one should overcome the shortcomings of any other of one, two, or more metals. About twelve such metals were chosen; obviously the number of combinations of these in different proportions is well nigh innumerable.

Crookes' Solution of the Problem.

But now for the actual results! The experiments of Sir Wm. Crookes finally produced glasses that: (1), cut off 98% of the heat rays; (2), cut off all the invisible and harmful ultra-violet, or chemical, rays and (3), let in 99½% of visible light. But these properties were not all contained in one glass. If any one glass contained all these desirable properties it would manifestly be ideal. Unfortunately, no such glass has yet been made, and the best thought on the subject inclines to the opinion that it is extremely doubtful if such a glass ever will be produced. The next best thing that can be produced is a glass—Crookes Glass—which will cut off most of the ultra-violet rays and at the same time only reduce the illumination imperceptibly.

Two Kinds of Crookes Glass.

Sir Wm. Crookes has perfected this in two shades. It combines in the highest degree the ability to cut off ultra-violet and heat rays and at the same time allows the passage of a maximum of visible light. These shades we have adopted for ophthalmic lenses and designated as Absorptions A (light), and B (dark).

The first, A, is a very pale neutral tint, so pale as to appear colorless to the casual observer, when worn as spectacles or eyeglasses. It lets through 99% of visible light, and cuts out the harmful ultra-violet rays, and 40% of the heat rays. Its refractive index is 1.523. Objects appear in their natural colors and the injurious rays are removed.

The second, B, is a medium neutral tint, designed to cut down the glare of any strong light. It lets

through 84% of visible light and is equally efficient in cutting out the ultra-violet while absorbing 40% of the heat rays. Its refractive index is also 1.523. With this shade the glare is removed, natural colors appear as usual and the injurious rays are cut off.

What About You?

Sir William Crookes has done his work extending over six years of ceaseless experimenting, involving time, money, and the exercise of his priceless experience. We believe he has produced the most scientific colored glass yet made. But all this is lost unless you are prepared to meet new ideas, appraise them and *adopt them for your use.* We are prepared to back it with our endorsement and after great expense to ourselves we have verified it to our own satisfaction. We are not given to the endorsement of fanciful, impractical ideas and inventions. Neither are you!

Crediting you with sound business sense and a forward-looking spirit, therefore, we'll now tell you *Why* Crookes Glass is the best yet made and *Why* you should use it. We have explained *What* it is.

Reasons Why For Crookes Glass.

In the first place, it is the product of rich, long, and varied experience; the immediate result of six years' experimentation and elimination by one of the world's foremost scientists. It is an ultra-scientific product.

Second, this is the first time that a tinted glass has ever been produced for optical purposes which cuts out so much ultra-violet light without changing the natural colors of objects. Other glasses either alter the natural colors completely, reducing the vision at the same time as the ultra-violet rays, or else dim the natural colors so as to hinder the sight.

Third, Crookes glass is not unsightly. The light shade, to the casual observer passes for ordinary optical glass. In the dark shade its slightly perceptible color is beautiful; its physical properties afford splendid relief from glare for people with sensitive or weak eyes. It preserves the beauties of nature's colorings, merely softening them down to a bearable level.

Fourth, it gives the same relief from brilliantly reflected sunlight as ordinary smoked glass; and it does this without perceptibly dimming the colors (when the light shade is used) while at the same time scientifically cutting out all the harmful ultra-violet light rays. When the light shade is prescribed by you for a patient, it appears practically no different from ordinary optical glass. But your patient feels the difference in a diminishing of reflected light, and the eyes are safeguarded from the ultra-violet rays. In fact the elimination of the glare seems to bring out the contrast of colors clearer than ever and make them even more beautiful.

Fifth, Crookes Glass undoubtedly fills a crying need, and one peculiar to every locality. Now is the time for the hustler, the progressive oculist, optometrist, and optician to see that its wonderful

Amoptico



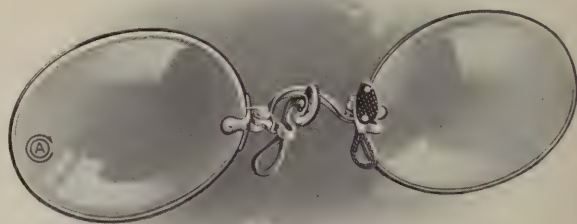
advantages are clearly and quickly explained to patients. They should be given the immediate opportunity to purchase lenses ground from it.

Sixth, it can be adapted for a variety of uses:

The A absorption should be worn indoors for reading, and especially for work requiring close application under artificial light. It will be found extremely beneficial when attending motion picture shows, as large quantities of ultra-violet light are reflected from the screen.

The B shade should be worn outdoors in bright sunlight to relieve the eyes from the glare of water, pavements, or snow. This elimination of glare makes distant objects appear much clearer, and hence is useful for shooting and hunting. It should also be worn by people addicted to headaches caused by the glare of too strong a light.

Seventh, you can make a splendid profit from it. Crookes glass is very hard and runs high in quality, due solely to its scientific manufacture. You may prescribe it with perfect confidence. It can be ordered from your jobber in either light (A), or dark (B), absorptions. He can make up your prescriptions or supply blanks from which you may grind the lenses yourself. Use tools of 1.523 index if grinding yourself, and your results will be accurate. Specify lenses or blanks made from Crookes glass by the AOCO. Read! Be convinced! And Order! **DO IT NOW.**



Almost Invisible Eye-Wire

We have a style—it's not new—that is just coming into vogue. It's the almost Invisible Eye-Wire glasses, whose delicate, fine metal rim, running around the edge of the lens, with a frameless mounting, gives the last touch in neatness, beauty and refinement.

Here's something distinctive and inconspicuous for you. We have sold it in special lots for years, but now popular demand is forcing us to market it in larger quantities.

How do we know the public wants it? Because our travelling representatives have written us repeatedly that the Invisible Eye-Wire is destined to become popular everywhere. From the West they report a constantly increasing inquiry for this line of goods, not alone in the big centres, but the small towns as well.

Are you prepared for this innovation? Are you alert to see a big opportunity in this seemingly small improvement? If you keep your hand on the pulse of changeable public taste, you'll follow the



scent we've given you and lay in a stock of Invisible Eye-Wire Rims against the coming day. They appeal to Eye and Reason alike—your customers will appreciate this without argument if you push them. We put the "In" in Invisible; You take it out by showing them to your customers.

We have two styles—one a round, a delicate, fine eye-wire; the other, flat, and wider but well-nigh imperceptible as it lies along the periphery of the lens. Your jobbers are waiting for you!

ALUMNICO	ALUMNICO, B. E.	10K
Per doz.	Per doz.	Per doz.
Sizes 0, 00, 000, 0000	\$1.50	\$1.50
		\$4.50

Trade Prices per Pair

	Uncut	Edged	Edged and Drilled	Min. Retail Price
BLANKS				
Flat				\$0.45
Moulded				.60
FLAT SPHERICAL				
0.12 to 2	1.00	1.25	1.50	3.00
2.25 to 4.25	1.10	1.35	1.60	3.00
4.50 to 6	1.25	1.50	1.75	4.00
6.50 to 8	1.50	1.75	2.00	4.00
MENISCUS				
0.12 to 2	2.00	2.25	2.50	5.00
2.25 to 4.25	2.25	2.50	2.75	5.00
4.50 to 6	2.50	2.75	3.00	6.00
6.50 to 8	2.75	3.00	3.25	6.00
FLAT ROUGH CYLS.				
0.12 to 2				\$1.50
2.25 to 4.25				1.75
4.50 to 6				2.00
6.50 to 8				2.25
FLAT CYL. & SPH. CYL.				
0.12 to 2	2.00	2.25	2.50	5.00
2.25 to 4.25	2.25	2.50	2.75	5.00
4.50 to 6.00	2.50	2.75	3.00	6.00
6.50 to 8	2.75	3.00	3.25	6.00
ROUGH TORIC CYL.				
0.12 to 2				\$2.50
2.25 to 4.25				2.85
4.50 to 6				3.20
6.50 to 8				3.55
TORIC PL. CYL. & SPH. CYL.				
0.12 to 2	3.00	3.25	3.50	7.00
2.25 to 4.25	3.35	3.60	3.85	7.00
4.50 to 6	3.70	4.05	4.30	8.50
6.50 to 8	4.05	4.40	4.65	8.50
PRISM EXTRA	1.00	1.00	1.00	1.00

A New Year's Greeting.

American Optical Association Distributes Praise

"Dear friends,

Want to at this time congratulate the American Optical Company for its splendid co-operative publicity work in educating the Glass Wearing Public to more and more fully realize that in the wearing of glasses it's not a question of how cheap but how good. . . ."

(Signed) E. E. Arrington,

Secretary, A. O. A.



Reverberations From

The Council Chamber

ALL the passing cop could see was a pair of suspender buttons and elevated parts South as he noted the bent-over figure behind the optician's counter. "Huntin' for a copper, likely," he mused facetiously and passed on.

Inside, the old eight-day went "kryp-tok! kryp-tok!" unphased by the muffled street noises and moan of the wind fighting to get in. Swish! The exposed altitude of the optician felt the rearward effect of a gust of wind as it swept over the counter. "Worse than one of the old man's spankings," he muttered as it brought him smartly to the perpendicular simultaneous with the slam of the door.



"Well, I'll be —", "Nobody knows that better than St. Peter" cut in his friend the long absent machinery salesman. "But say, you're as welcome as the —", "Oh! yes, I know all about botany; studied it from log to telegraph pole. What you're gettin' at without ifs or buts is where I've been since last February, friend Toric. Now why didn't you come right out tactful-like and say 'Greetings, frozen North, whither bound?' instead of standin' there like I was your dead partner come back for a Kilglare!"

"Well, I've sure missed you like a pocketbook, old boy," whimpered Oliver Optic; "seemed like you never was going to smut up my floors and atmosphere any more."

"Outside of your callous request for a coin morgue, I don't mind admitting your shop's been on my mind considerable. You see, I went and got married like a darned goat—an' it's been 'gorilla' warfare ever since. Every time I said 'optician' to Sadie it sounded like a Southbridge picnic or the 'Face on the Bar Room Floor' to her. No! sir! couldn't get away once when I was home. But what's your trouble, you old Menis - cus. A long time since I rung in on your old settees. Come—out with it," he breezed, suiting the action to the word and pro-

ducing a pair of gold-filled specs with a flourish of the left hand. "Out with it, gloomy Gus, I'm rubberstet for your troubles!"



Southbridge Picnic

"What've you got there?" chirped up Toric. "Let me sell you a new pair of 1/10 12k Gold-Filled spectacles!"

"What? 12k Gold-Filled? Say that's just

about as popular as a gold tooth! Why it's all right for them as poor as your complexion. But do you think most people want that line?"

"There's a tremendous demand for it,—people invariably ask for 12k Gold-Filled frames," said Sir Oliver with a triumphant air of finality.

"Sure, because you and all the rest on the ostrich farm duck your profitable 14k Flag line leavin' the wrong end exposed—just like you did when I came in here—and think the public's goin' to sniff it out blood hound fashion. Seein' is believin' with them! If y'ever saw Sadie you'd know it, I'm tellin' you! Dig out your 14K and go to it!"

"Strange, I never quite thought of it in that way," mused the optician. "S'pose I really could sell such expensive goods?"

"Why, man alive, it'll be *next* February 'fore I see my wife if you're going to catch ideas slow as that! You'd be a fine citizen to marry Sadie. I ain't sayin' you shoulda or shouldn't but you've so much knowledge o' human nature you'd be meat for her.

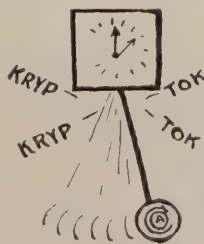
"Looka here, I can just take her when she's fightin' expenses for dear life, cuttin' down everything from bills to shirts—and I can get her just plumb hungerin' for 10 Karat, then 12 Karat and end up with her buyin' the heaviest 14 Karat you've got! You don't catch me trying it on her though—it'd cost *me* money—but that's human nature—always hungerin' for the best, whether it can afford it or not, an' all you got to do is learn how to play on it like a pianner—only be sure you end up strikin' the high notes!"

"Well, I'm convinced," said Meniscus with a shrewd twinkle in his eye, "but since you've convinced yourself, too, you might as well let me make you a pair of our Flag Line 1/10 14K Gold-Filled Fits-U."



"Sure, why not? I believe in practicin' et cetera, et ceteray," signalled the salesman. His thoughts then gave a homeward turn as he disappeared precipitately with an "I'll be in for them tomorrow," and a blithe rejoinder, a "14K" man to the core.

The old clock resumed its staccato, kryp-tok! kryp-tok! kryp-tok! as the optician put up his case cloths for the night.





Goods for the World's Markets

Conditions of demand vary so throughout the world, arising from customs, tastes, and methods of measurement peculiar to this or that locality, that every American concern operating abroad is sooner or later faced with the necessity of adapting its goods to these differences in the communities it hopes to serve. The AMERICAN OPTICAL COMPANY is no exception. Since the introduction of our goods into almost every country of the world we have met with a demand on spectacle and eyeglass frames so varied as to cause us in the course of time to practically replenish and readapt our foreign stock.

In the process of catering to foreign demand we have had occasion many times to adapt ideas suggested, for our own use here at home, so excellent were they. It is not by any means true or just, therefore, to say that there are not often good reasons for the alterations and special constructions required by the foreign trade.

Of course we depend very largely on Mr. J. P. Petherick, the manager of the London Agency representing our lines, and his staff, who take care of most of our foreign trade; we rely largely on his intimate knowledge and information about the requirements of European and other export markets. Although we believe the sample collection of our optical goods in this London office is one of the most interesting and varied in existence, and would have everybody visit it, yet we realize it would be impossible for the majority of the English dealers to do so.

We have, therefore, decided on the next best thing—to devote more space in AMOPTICO to the foreign trade in a get-together movement for our mutual benefit. We shall begin by endeavoring to illustrate and describe the most popular styles of foreign frames, calling attention to their distinctive advantages. We should greatly appreciate suggestions from you, either for *our* improvement or to tell us of yours.

British Goods.

To begin with we wish to call attention to the best seller in Gold-Filled frames in Europe, which is our No. 1646, made with the small "21" end-piece. In the U. S. A. the 1638 frame with the split joint end-piece is the one most in favor. However, European opticians prefer the cap-joint end-piece, frequently called the English style end-piece. From the wearer's point of view both end-pieces are extremely neat and satisfactory. From the standpoint of the fitter, we think the 1638 frame is pref-

erable; but the question of advantage or disadvantage is not our concern here. We are anxious to supply whatever frame is wanted. Many of our friends abroad prefer the 1646/21 end-piece, made with screw dowels instead of threadless pins, and we are furnishing frames made accordingly, as you can readily see from accompanying illustration.

Except for the end-piece the 1638 and 1646 frames are almost identical. Both are made according to one special patented stiffening process and embody all the advantages so well known and appreciated in our Gold-Filled lines. The 1646 frame is made in the following qualities:

1646/21	1/10	10 K Cable Frame	29/- doz.
1646/21	1/10	12 K " "	30/- doz.
1646/21	1/10	14 K " "	34/9 doz.
1646/21	1/10	1/5 12 K Bridge & Temple	37/6 doz.

and also in the Flag line, which is conceded to be the leading Gold-Filled line on the market,

4036/21 Cable Frame 39/- doz.

Ask your wholesaler to send you some of these frames on your next order.

Must Have Been a "C" Post!

A Rap on the Head's Worth 10 Pairs of Glasses

Blind 18 Years, Hits Post; Sees

(Boston American, Dec. 16)

After being stone blind for nine years and practically sightless for nine years before that, Frank H. Haynes of Hyde Park, once a famous horse racer, can see. He.....

When arising from his bed and groping about with his hands, he suddenly struck the post. --- Immediately sight was restored.



Amoptico

Reg. in U. S. Pat. Off.

Vol. III January, 1915 No. 10

Published Monthly by
American Optical Company
1833-1915

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Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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Taking Stock

NEW Year's is the time for taking stock. In business it is a necessary process; as a mental exercise it is a convenient date prescribed by custom for the assaying of past and future actions.

This New Year looks over the Sun Dial on a world well-nigh entirely involved in chaos. He sees the greatest upheaval in world's history left to him as an heritage by the year which has just passed on. And yet—most significant of all—he finds us still taking stock amid chaos and looking forward *during his reign* to prosperity and all the emolu-

ments of improved conditions. Had he seen us last fall he would have viewed a people thrown into temporary disorder by the suddenness of the tremendous cataclysm. He now sees the marvellous recuperative powers of a forward-looking nation of individuals, united in name and action.

We are of the firm opinion that fundamentally conditions were never better. This is at once a declaration of faith and basis for future action. The country is sound financially, crops were the best ever produced, and whatever slowness has characterized our business machinery in the past five months has not been dictated by any fundamental defects in it but by the simple need of courage and close observation in order to determine the effects of the European catastrophe before calling again for full speed ahead. This much too must be remembered—the optical business has been singularly free of the disturbances which have temporarily affected other businesses.

In our taking of stock then we have many things to show—besides Christmas presents—for our virile optimism at this time. And not the least of these is our confidence in the year of record-breaking coöperation and enthusiasm to come between the AOCO and your worthy selves.

The AMERICAN OPTICAL COMPANY wishes to acknowledge its indebtedness to you for your coöperation in marketing the year's output, and to wish you the compliments of the New and Bigger year—1915. We are indeed fortunate in our friends.

Amoptico

*"Made in America"—AOCO
Watch Crystals*

After exhaustive investigation and long consideration of the opportunities for profitable service to American trade, we think we have shown commendable judgment and initiative in going after the foreign and domestic watch crystal business. By this time the news has spread broadcast that we are the first of the great American manufacturers to bid for the watch crystal business in these still United States; not only that but we are seeking the world's markets for this product.

Just why, outside of individual limitations, the American manufacturer has never tried for this business, amounting to twenty million crystals yearly in this country alone, is the history of almost every American business enterprise competing with foreigners under a low tariff. The low cost of labor to the foreign manufacturers has forbidden it. By reason of this low cost of labor abroad, foreign manufacturers have been able to build up a monopoly on the manufacture of watch crystals. These factors made the American manufacturer, in view of the risks involved, unable and unwilling to enter into the watch crystal business.

That it will be possible hereafter to obtain "Made in America" crystals from jobbers of watch materials will be good news to American jewelers. That these will be made to accurate standards of sizes will be an innovation welcomed by American watch case manufacturers, who, on account of the inaccuracy of imported crystals have never been able to standardize the bezel rings, the only part of the American watch not interchangeable.

Decide the Gold-filled question *now* for all time —



HOW much of your time and money have gone into experiment in an effort to solve the problem of selecting a line of Gold-Filled goods that you are willing to adopt as your permanent standard? Many dealers have been through this experience with most discouraging results. Because we are fully alive to existing conditions, we set for ourselves the task of solving the problem from your view point, first making our interests coincident with yours. We feel that this news will be welcomed, for the result will enable you to settle the gold-filled situation definitely and permanently.

The answer: FLAG (Amoptico) LINE 12K and 14K Gold-Filled SPECTACLES and EYEGLASSES

AOCO Flag Line goods in 14K Gold-Filled, have been on the market three years. The ever increasing volume of Flag sales has more than justified the confidence we had in the good opinion of a most discriminating class of the optical profession. We realized, however, that the more universal desire for 12K in Gold-Filled lines was a legitimate, bona fide and well developed demand so we did the logical thing; —we developed a Flag Line of the same excellence in 12K Gold-Filled.

The character of these Flag Lines is positively known; the element of guess and chance entirely eliminated. They are the highest accomplishment in Gold-Filled optical ware manufacture, for they represent the accumulated ability and experience of an organization older, bigger, better equipped and developed than any optical factory in the world. Naturally, the finest Gold-Filled products of such an institution are the best Gold-Filled optical goods that your money can buy.

PRICE LIST 12K FLAG LINE

Bridge and Temples 1/8 12K, other parts, 1/10 12K

	PER DOZ.
Spectacle Frames	
2028 Riding	\$6.60
2028C Cable	7.70
2028CC Comfort Cable	8.50
Spectacle Mountings	
2069, 2099 Riding	6.00
2069C, 2099C Cable	7.10
2069CC, 2099CC Comfort Cable	7.90
Fits-U Eyeglass Mountings, 1/8 12K Bridges	
02101, 02103, etc.	7.50
Eyeglass Frames and Mountings	
2723 Frames, offset	6.50
2793 Mountings, offset	3.75

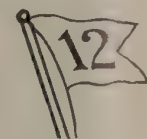
Every single feature, design, construction, stiffness, color, finish, indicates marked superiority over anything offered. Temples and Bridges, for instance, which the greatest wear occurs, are reinforced with heavier and more durable covering of 12K or 14K Gold 1/8 the weight of those parts.

Bridge and Temples 1/8,
Eye-wires, End Straps 1/10
12K and 14K

Supplementing the general excellence of the Flag Line are special structural features of particular mention which may be had when so desired, notably:

1. Perfex, pear tip, riding and cable produced on automatic machinery.
2. Smooth comfort cable temples with smooth tips.
3. New small rounded back end pattern hitherto only on solid Gold Goods.
4. "T Foot" Bridge, acknowledged to be the strongest and most durable in adjustment.

Flag Line Trade Your Protection



Order From Dealer TODAY

No matter where you are located, get 12K or 14K Gold-Filled Flag Line Goods through your regular dealer. He may not have them in stock as yet but he will get them for you from



Other parts eye-wire, ends, straps, etc., are 1/10 quality.

Therefore every Flag Line frame or mounting will actually assay better than 1/10 12K or 1/10 14K Gold-Filled.

Exclusive patented processes insure an evenly tempered rigid structure, every part perfect in size and shape, every electrically soldered joint smooth and non-corrosive.

Think what goods of this kind—Flag Lines—mean in permanent good will and prestige. The best sort of an advertisement for you. Does this not therefore offer you at once a ready made answer to your Gold-Filled problems?

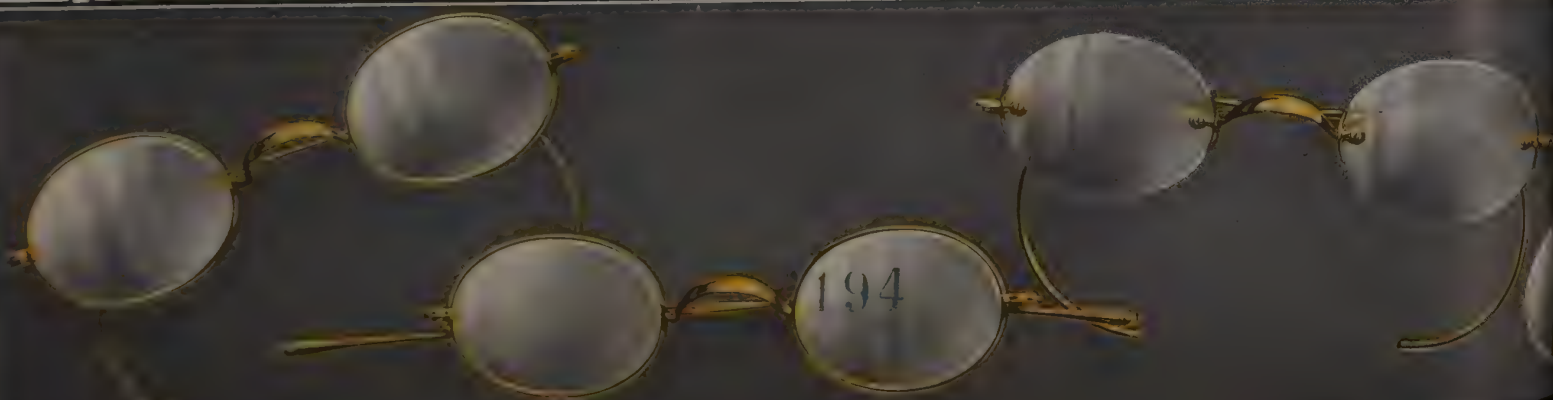
BETTER QUALITY—NO HIGHER PRICE.

Isn't it welcome news to you to know that you can now get lines of Gold-Filled goods that you can adopt as your permanent grades, better in quality, in fact, better in every way at prices no higher than you have had to pay for the ordinary kinds?

PRICE LIST 14K FLAG LINE

Bridge and Temples 1/8 14K, other parts 1/10 14K

	PER DOZ.
Spectacle Frames	
4028 Riding	\$8.00
4028C Cable	9.00
4028CC Comfort Cable	10.00
Spectacle Mountings	
4069, 4099 Riding	8.00
4069C, 4099C Cable	9.00
4069CC, 4099CC Comfort Cable	10.00
Fits-U Eyeglass Mountings, 1/10 14K	
4101, 4103, etc.	8.50
Eyeglass Frames and Mountings	
4723 Frames, offset	8.00
4793 Mountings, offset	4.50





Our Exclusive Lizard Grain

Much has been said about cases! The live manager of our case department says not enough can be said! We were neutral between these two points of view, so we went out to see him.



Our Exclusive Lizard-Grain

"What've you got in cases?" we asked him. "Only 50,000 dozen," he came back, with the short and quick answer characteristic of men of action. "No, I didn't mean in stock. What've you got that's new—not only new but good?"

"Tell you what," said he after scratching his head considerably, "there's lots that's new. But I've got a beauty new case,—

lizard grain on buffing. Ought to be pushed too. Can't beat it for style!" "What else," I asked Missouri-like?

He took up a sample, studied it with the thoughtful pride of a creator, then added "It's not that it's less expensive than genuine lizard that strikes me—it's the fact that it will wear like iron, look as pretty as a picture in green and black and red, and tickle the customer's fancy. Further'n that to the customer it looks no different than genuine lizard."

"What's been done like it," I queried. "Nothing!" he returned. "We're the only people making it and believe me," he came down on the desk with a thump, "if the dealer's at all wise as I think he is, he'll get aboard on this case before others exploit it. Beautiful case—positively beautiful—only one of its kind on the market. The public's just been waiting for a pretty, hard-wearing case like that—and not a soul making it but the AOCO! The dealer's wanted a lizard grain for years that would look and wear like the genuine. Our new vulcanizing process for applying leather to steel made it possible, preserving the form and grain. Can you beat it for an opportunity? Tell our dealer friends." So there you have the story just as it was told us. Order by number from your jobber. We can make it on order, in all sizes at the same prices as "J" Watergrain.

Order genuine AOCO Lizard-Grain Cases by these numbers:

Steel Form	Aluminum Form	Style	Size
705	706	Fingerpiece, flat top	1 1/8" x 4 1/4"
707	708	Eye-glass	1 1/8" x 4 1/4"
715	716	Fingerpiece, large, flat top	1 3/8" x 4 1/4"
717	718	Eye-glass, large	1 3/8" x 4 1/4"
325	...	Spectacle, flat top	1 7/8" x 5"
327	328	Spectacle	1 7/8" x 5"
377	...	Spectacle, large	2 1/8" x 5 1/4"
367	...	Shooting or Goggle	2 3/8" x 6"

Three Hundred Dealers Wanted This Man

No, not the really and truly flesh and blood kind but the life-like plaster model that displays your Optical goods, and never grumbles at long hours, nor asks remuneration.

So great was the demand for the AMERICAN OPTICAL COMPANY'S Model Man that we received more orders than we could promptly take care of, but you may feel safe in sending for yours as we took immediate steps to fortify ourselves against an avalanche of orders.

You know how well nigh impossible it is to make a satisfactory display of Frames and Mountings in your show windows, and surely a life-sized model offers an excellent opportunity for you to increase the attractiveness of your windows.

The AMERICAN OPTICAL COMPANY'S Model Man is a reproduction of a finely proportioned head, mounted on a decorative

base, on which is a suitable receptacle for cards, nine of which are furnished to describe the various Mounts that can be displayed on the Model. It is not to be compared with the grotesque models or figures sometimes seen used for this purpose, but is truly an ornament to any Optical show window, and its beautiful bronze green base harmonizes with any color scheme you may use, and the face is so modelled that any eyeglass or spectacle looks attractive.



Send your jobber an order now for a Model Man, and be the first in your town to exhibit one of these window displays.

Price is seven dollars and a half (\$7.50) F. O. B. Southbridge. In ordering from your jobber be sure to state whether you wish to have it sent by express or freight. Gross shipping weight is 45 pounds.





SELLING *the* GOODS



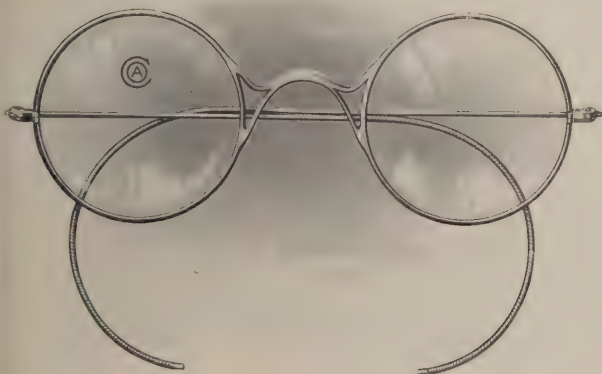
More Profit to You

Now comes news of a varsity spectacle in 1/10 12K Gold-Filled that will appeal to you we feel sure. Built in good, sturdy fashion with broad, comfortable, reinforced Liebold style bridge strongly attached to heavy eye wire, its general appearance gives the impression of luxurious comfort as well as the distinctiveness of an exclusive style. The temples, too, are the heavy Comfort Cable type with smooth tapered junction between heavy solid wire and cable and smooth tip.

The bridges are supplied in three widths. Eyes are 40 mm., round, with temples 6½ inches.

Doesn't this proposition look good to you? There is a big desire on the part of your customers for just such a frame as this for library use. The fact that you can supply it in 1/10 12K Gold-Filled brings it within the means of everybody, yet there is a generous margin in it for you. All it needs is an introduction to meet with ready sale.

By the way, the catalog number of this frame is 4268, the price for a dozen is \$17.00. Such a frame



No. 4268

will retail readily for \$5.00. Well, we guess you know a good proposition when it's put up to you.

Simply break the news to your jobber; gently but *firmly* insist and make sure you get the real ACo Varsity every time.

And Yet Another.

Then there's another Varsity proposition. Something "real slippery" as the office boy described it; a Zyloware non-folding Varsity eyeglass with a particularly handsome 1/10 12K Gold-Filled



No. 4817

spring. The design of the sides is worthy of the best efforts of the shell-makers' art, coupled with the knowledge of what's right in eyeglass construction. But why go into details about that? The illustration is good and it shows just how the eyeglass really looks. Let it suffice, therefore, to say that the eyes are 40 mm., and the catalog number is 4817 and the price \$18.00 a dozen.

That your jobber can get these for you goes without saying. Why not join the Varsity crew and cross the line first for better 1915 business?

Why People Age!

So-and-so writes: "Please send me your catalog on spectacles. I am 53 years old."

WORKS OF TASTE BEAR A PRICE

"All works of taste must bear a price in proportion to the skill, time, expense and risk attending their invention and manufacture. Those things called dear are, when justly estimated, the cheapest. They are attended with much less profit to the artist than those which everybody calls cheap. A disposition for cheapness and not for excellence of workmanship is the most frequent and certain cause of the decay and destruction of arts and manufactures."—*Ruskin*.

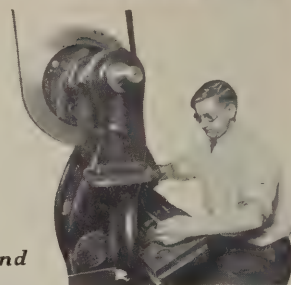
Amoptico



OUR SANIGLAS SAFETY REVIVAL

DANGER!
*Unskilled aid leads to In-
fection, Disease, Blindness*

SAFETY!
*Saniglas Prevents and
Protects*



"Safety First" is a nation-wide cry! It resounds like the cry of the pack in full pursuit of the quarry. Its appeal stirs humanity to its very depths, because it means the safety of life itself. It touches the world, the nation, and the individual; it revives our most primitive instinct—the desire for self-preservation.

From the Far East to the Hopeful West, from Peary-land to the wastes of the tragic Scott, "Safety First" has been an instinct gradually working out its salvation in every conceivable form.

As a nation we lead in this idea. A vast movement from coast to coast is in full swing. "Safety First" has become the household motto. People have been awakened to the appalling loss of life, eye, and limb from gross carelessness, and the remotest individual is now keenly alive to the necessity of prevention—the anticipation of a cause before it exists—and to the possibilities in protection. SANIGLAS prevents and protects. The danger of infection and blindness from unskilled assistance is removed.

Why, then, with the world, nation, and individual in a receptive mood, is there not a field here for you with AOCo Saniglas Eye Protectors? There is. Your public is already receptive to any "Safety First" device; the call for "Safety First" has been nationalized for you. Harness Saniglas and "Safety" to make a still better slogan—then add your own

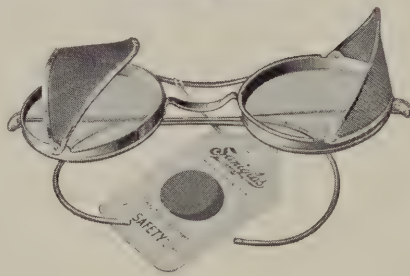
personality and enthusiasm to the cry and go after the business that awaits you!

Big corporations have seen the value of them; why not encourage the individual workman? Make Saniglas a household word! *The safety of the family depends on the safety of the head of it.* The workman's wife is as vitally concerned as he is. Through her you may help protect him.

Saniglas lenses are tough, and if struck hard enough to break will *break outward*. For instance, they have successfully withstood over thirty-five blows from a five-eighths inch steel ball dropped twenty-one inches upon their unsupported surfaces, without breaking. Ventilated screens protect the eyes at the sides and every joint is reinforced against breakage. Experiences with Saniglas Eye Protectors in big foundries and factories show them to have broken under blows from flying chips up to forty pounds *with never an accident to the eyes behind them.* They are used exclusively by the greatest steel companies and railroads, and in all hazardous occupations.

It will be good business for you to interest the workman, the workman's wife, the foreman, the mill superintendent, and the employer in this great Saniglas Eye Protector movement. Your jobber will quote prices and make prompt deliveries. There will always be a demand for Safety Goods.

Saniglas
TRADE MARK REGISTERED



OPEN HOUSE IN SAN FRANCISCO —AN INVITATION

THE host of our oculist, optometric and optical friends has already started across Continent westward to the great Panama-Pacific International Exposition.

To all who may join this "Seeing America First" movement, the American Optical Company open-heartedly extends the courtesies of its San Francisco offices.

We hope and expect you will visit us there, making it the headquarters for many a delightful reunion and using its manifold conveniences, such as writing rooms, telephones, information as to accommodations, etc., for your own comfort and pleasure.

Real hospitality we extend to you with the pleasure a mutual one.



Still Another Improvement in the 3103 Fits-U

Contrary to the old adage, "Let well enough alone," we are always on the lookout for even the slightest chance for improvement. This, of course, has been our policy for years, and to it we attribute in a large measure the phenomenal success of the Fits-U mounting.



Old Style New Style

We now offer the popular No. 3103 Fits-U finger-piece mounting with two quite noteworthy improvements; one is the lessening of the length of the guard, and the other the reinforcement of the guard arm end to which rocking guard is attached.

The shortening of the guard greatly facilitates fitting, as well as overcomes trouble you may have experienced in finding some guards a trifle long, the upper part coming in contact with the bony structure at the base of the eyebrows. Then, too, the guard is now made with double corrugations, which adds tremendously to its security. Diminishing the size of the guard results in a less conspicuous mounting but still presents the necessary holding surface; and is much easier to fit to the majority of patients.



One can readily appreciate the value of the addition of the loop construction of guard arm through which the pin holding the rocking guard is fastened. This construction is such that there is now a bearing on both sides of the guard, and almost entirely overcomes the trouble of having loose and wobbly guards. This is a tremendous advantage, as the guards still have an easy rocking motion with absolutely no side motion—which is caused by the enlargement of the hole in the guards resulting in their finally becoming detached.

Thus the employment of this double bearing construction does much to prevent a common occurrence—that of patients coming in with the complaint that their glasses shake on the nose.

Give your jobber an order for some of these mountings and see whether you do not agree with us that they are more than ordinary improvements in eyeglass construction. In no way is the cost of the No. 3103 Fits-U affected. It can be obtained from your jobber at regular Fits-U prices.

Odd Tribute to Fits-U Quality

In a mysterious suicide which has recently been given many columns of space in the Chicago papers, an odd and entirely unconscious tribute was paid to the quality of Fits-U Eyeglasses. The Chicago *Tribune* in giving up a front page column to describing the various clues says:—

"While most of the victim's jewelry was inexpensive he had eyeglasses of good quality . . . The eyeglasses are rimless and the trade-mark 'Fits-U' appears on the nosepiece."

On the Eighth Lap

Nearly one year! Eight months gone since the Rice Leaders contests started! "They're off!" cried the crowd. Day by day, month by month all eyes were trained on AOCo, all glasses watching the field streaming out behind. Oculists, optometrists, and opticians down to the most impassive eyeglass-wearing spectator in the grandstand stood tense with the expectancy of the moment. Not a sound as they raced 'round the international track. Far down the turn they swing into the stretch and race past the eighth lap. AOCo never falters. "She leads—AOCo leads!" the multitude roar as they flash by the stand and disappear round the bend.

Truly it may be remarked that the sun never sets on the Leaders of the World banner, for there are contestants for prizes in every civilized country. Thousands are entering the race, for the stakes are worthy of the game.

These great contests offer you a chance to win a share of the \$15,000 cash prize for Window Displays. The Association also stands ready to divide \$10,000 among those in the grandstand for ideas that will keep the AOCo in the lead.

The contests end in May; nearly five months to go. Get into this race now with your ideas, window displays, and enthusiasm. You will be bound to win in increased sales and profits whether or not you are lucky enough to be a prize winner.

Here's what Benjamin F. Vander Zanden—who tried it and knows—writes in from De Pere, Wisconsin, to the Rice Leaders of the World Association:

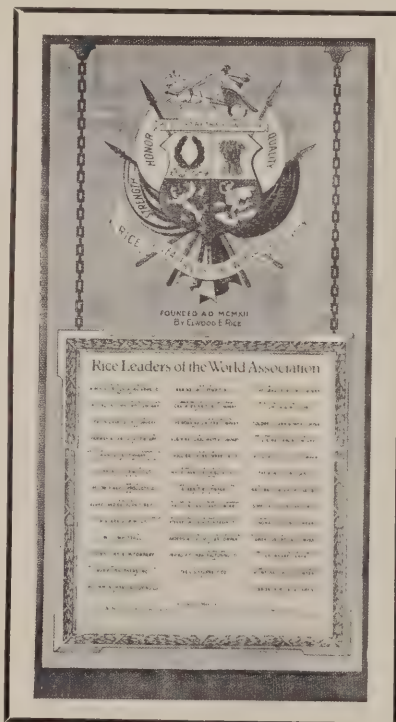
"Gentlemen:

We found that the Window Display of American Optical Company goods materially increased sales, and most people coming in for glasses called for, or in some way mentioned Fits-U.

The Rice Leaders Banner was displayed at one end of the window and was a big help in increasing our sales, and added much prestige to the goods displayed.

A good many people already knew what the Banner stood for through having seen your advertisements."

Write to the Rice Leaders of the World Association, 358 5th Avenue, New York City, for full particulars.





A PILGRIMAGE

From Southbridge to Amherst to see the Tinker Genius

We found "Uncle Eddie" Thompson, tinker genius, friend of the late Alvan Clark, Brashear, and assistant to Prof. Todd on astronomical expeditions to Japan, Tripoli, and South America, seated in his little shop, hidden behind the National Bank in Amherst. Seventy years old, a genius at any job from lens grinding to making friends, counsellor and teacher to scientists and professors, and honorary Master of Science of Amherst College, he was sitting there fixing a leaded-glass window at 9 o'clock on a Saturday night.

Student tradition in Amherst College credits "Uncle Eddie" with the ability to do anything. It doesn't matter whether it's the simple problem of a bed-spring or a complicated problem in optics, he can solve it. Few know more about astronomical optics on its mechanical side than he. Professors in Amherst give him their ideas and he works them out. He has invented, made and set up various parts of telescopes now in successful use. Yet no one can lure him from his obscure location behind the bank with the inducement, or hope, of publicity. He's no seeker after fame—it has come unsolicited from his works and the whisperings of a host of students who've carried his name far and wide, until Ray Stannard Baker heard it and inscribed it in the *American Magazine*.

Hunched up cross-legged on a rickety stool, putty knife to mouth and a chipper, bird-like expression 'round the alert eyes, the reminiscences began on the subject of the late Alvan Clark, the great Cambridge lens maker. "Last time I saw Clark he was workin' on the Lick telescope lens. How large? 'Bout, let's see, 36 inches. Clark was never satisfied with a perfect figger. He allus said no matter how perfect the glass wuz, he was goin' over it—and sure 'nough he did. The lens 'd have a perfect curve but he'd get down t'one end of a long black square tube, set up the lens, poke a candle up front of it, n' watch th' image of the light refracted on the charted squares down t'other end; if the image spread or blurred he'd plot out the correction. There'd be 250 corrections to make on what you or I might call a perfect lens, both sides, afore he'd get through. Took him three weeks maybe to correct one little part on that lens. Yes, siree, perfect glass would fix that now, but Clark'd still insist on correctin' it. There wan't no such thing as perfect glass to Clark. Trouble with *Brashear 'n them fellers

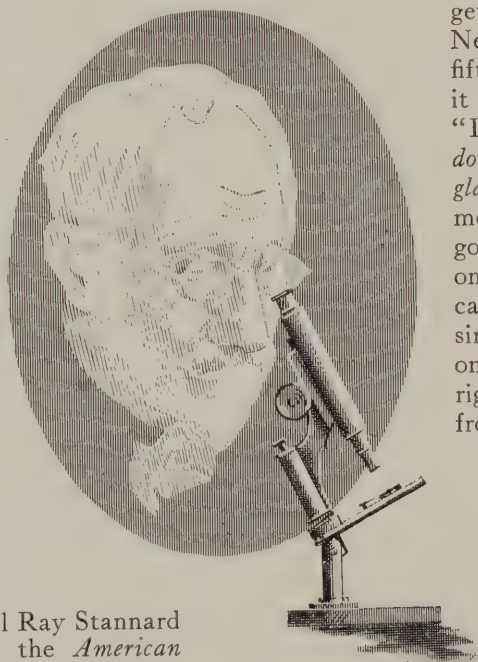
today, they don't take any such pains; they grind a lens to the perfect curve 'n let it go at that."

Then, "Uncle Eddie" got to talking about his glasses—and best of all, unconsciously handed us a testimonial along with some shrewd comment on buying glasses. We had told him about our latest Uni-Bifocal lenses, when he said he was bothered by his cemented bifocals. "They get in my way, these uns I wear. Never needed glasses 'till I was fifty." We could see no defect as it was in those kindly, keen eyes. "Done fine work all my life and *don't believe in sparin' expense on glasses*. Every time they bother me I go get 'em changed. I'm goin' to change these; those new one-piece double lens (Uni-Bifocals) are just what I want. No! siree! 'don't believe in hedgin' on expense; it don't pay. I'll go right over tomorrow and get 'em from Millett—he sells your goods."

We offered to send "Uncle Eddie" a pocket reading glass as a simple token of appreciation upon leaving. He grabbed one of us softly by the lapels! "No, sonny, just send me a catalog of your goods," and that's "Uncle Eddie" in a

nutshell—as simple in tastes as before his measure of fame came to him, kindly in spirit and contented with his lot, he lives out his life in the humble satisfaction of service to others and consciousness of work rewarded. But if you think 70 years means old age, try to fool "Uncle Eddie"! Watch him hunch his shoulders, give that alert bird-like twist of the head, shift quickly about, and turn those keen eyes sparkling with years of accurate thinking and observation on you. Then he's after you! We knew better than to try it.

As we left him he started back to rickety stool, putty knife and old leaded-glass window; 'twas then two hours from Sunday.



*Dr. John A. Brashear of Pittsburgh was elected President of the American Society of Mechanical Engineers at its annual convention in the Engineering Societies Building, 29 W 39th St., New York, on December 3rd. With the late Alvan Clark, Dr. Brashear shared and still shares the reputation of being the foremost telescope lens-maker in the world.

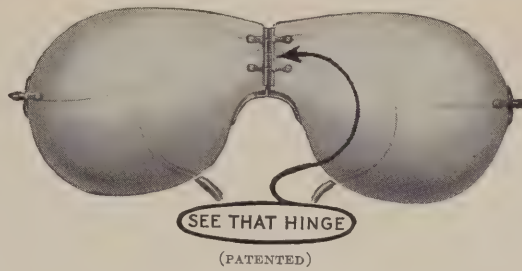


Amoptico

NO OPTICAL STOCK
IS COMPLETE
WITHOUT

THE AUTOGLAS

(Patented May 2, 1911)



WE RECOMMEND
THE BEST EYE
PROTECTOR MADE

THE AUTOGLAS

Trade Mark, reg. U.S., Pat. Off.

The AUTOGLAS, as illustrated above, is the only hinged bridge Eye Protector made, as this is a patented feature that cannot be used except in the AUTOGLAS.

This hinge, combined with the shape in which the lenses are ground, permits the AUTOGLAS to fit every curve of the face, absolutely excluding dust and flying particles but at the same time allowing full ventilation for the eyes from the sides.

The AUTOGLAS is made in four sizes, and cardboard sizers may be had for the asking.

Regularly supplied with standard Amber Lenses, but may be procured with white, or any color desired, at a slight additional cost.

Retail price, with standard Amber Lenses, each \$5.00. Write your jobber for particulars.

BETTER THINGS

Sound the trumpet!
Beat the drum!
Better things are
Bound to come!

—C. & H.

A MILLION - A - YEAR

Just as a reminder how we are helping your business, the year just ended has shown a distribution of 1,000,000 blotters to the trade.

High Speed Steel Screw Taps

The past half-century has seen tremendous strides in the art of cutting metal. The greatest advancement of all has been in the perfecting of steel for the use of cutting tools. This new steel is rightly called "High Speed Steel" (on account of its remarkably free and rapid cutting qualities, and its ability to stand a maximum of speed with its consequent abuses).

The AMERICAN OPTICAL COMPANY was keenly awake to the possibilities of such a steel when applied with small taps and drills, for Optical purposes, particularly screw taps. Of such an infinite size it is imperative that they should be of a material that would stand sufficient hardness to maintain a sharp cutting edge without destroying their flexibility that is so essential in such small cutting tools.



AOCO Screw Taps not only have these qualities, that tend to increase the usefulness and long life of a tool, but are furnished today with grooves or flutes which serve as a means of egress for the small chips of metal which are removed.

Fluting the sides not only makes cutting easier and quicker, but provides a much cleaner and better thread. The old style of Screw Tap, with flat sides, always offered an opportunity for the chips to clog, and often resulted in the breaking of the Tap.

With the Fluted type ample clearance is provided for the chips to work back and out which, as one can readily see, is very essential for perfect tapping.

The next time you order Screw Taps do not merely order Taps from your jobber, but insist on "AOCO Screw Taps."

What Do You Know About This? And You Let Him Do It! The Uplift of the Movies!

Gentlemen:

All of the lantern slides are fine and the one that states that "If The Pictures Hurt Your Eyes It's Your Eyes And Not The Pictures" was so liked by the owner of the show that he wants to run it all the time free of cost to me so I let him do that and furnish him another one to run every evening, so with your permission I will retain that one until he gets thru with it.

Try and not let me run out of all the printed matter you can send me.

Yours for business,

(Signed) JAMES R. RIGG.



Our Inveterate Reader

We have an idea which, accompanied by proper orchestration and the rendition of mellifluous melody by the anvil chorus, we would like to place before you. We speak feelingly of our latest Amoptiscopes, the new Shell and Mottled Amber colored readers conceived, nurtured and now cut off to shift for themselves in Southbridge, Mass., and other parts.

We have had other ideas too in the last thirty days. Those that survived are in this issue. Those that haven't died a variety of deaths: some were put to death by processes known only to Catherine de Medici and us. Others were cut off abruptly at the neck. This one today is as full of feeling as the Frenchman when he raises fingers to mouth and kisses them open, fervently murmuring "Magnifique."

They represent merely a change in color from virgin white to a beautiful deep mahogany shell, and a soft yellow, translucent mottled amber. Only a short step from one color to another but quite adaptable to human tastes. In the winter one likes a rich, thoughtful shade; or the soft mellow appeal of amber is wanted. In the summer nature is colorful; we then want white, ivory, the cool, the refreshing tones in our library readers.

And Amoptiscopes are indispensable; they are as inveterate as the readers who use them. No library

table is complete without one, few are ever seen unadorned with one and you yourself will find it difficult to remember the time when the old library table did not have one handy, next to the Bible, for the old folks to use. There is always, therefore, a chance for you by suggestion to encourage the customer to purchase one. If he owns a light table—oak, maple, or walnut, suggest the mottled amber. If a dark or mahogany table, the dark shell is an admirable companion. But whatever the particular uses of these two new colors AOCO Zyloware Amoptiscopes, for general necessity and pleasure are artistic, useful articles with powerful lenses.



Mottled Amber

Cat. No.	Focus	Diameter	Ivory, or Dark Shell Per doz.	Mottled Amber Per doz.
R5952	+10.	2 inch.	\$11.25	\$12.00
R5952½	+8.	2½ "	15.00	16.25
R5953	+6.50	3 "	18.00	19.50

AT LAST! Four New Business-Getters

And When They See Them In Color!!!!\$\$\$\$



Now then! We have prepared these four beautifully designed window cards for you to display in your windows, calling attention to your profession and its various branches. Cards are 6 x 9, printed in red and green on a delicate pearl grey stock, producing a most pleasing combination of colors with an attractiveness that will catch the eye of the public in passing your window.

No. 17D4.

The most appropriate copy has been used for these cards and when printed in a brilliant shade of red your prospective customer can't fail to go away from your window without having firmly impressed upon his mind the thought that you do scientific eye-testing or pay particular attention to children's eyes.

Then, too, these cards tend to link your store and its product with the American Optical Company and the Rice Leaders of the World, both of which are so widely advertised in the national magazines.

Owing to the expense incident to preparing these beautiful cards and the careful packing necessary, we ask you to send us *twelve* cents in stamps to help defray the cost of packing and mailing.

While we have a liberal supply we urge you to send in your request, together with stamps, at once and avoid being disappointed. The order number of the set is No. 17D4.

Write the Publicity Department for Booklet A38 showing various quality and trade marks. This will assure you of your always obtaining AOCO quality goods:

"The eye of the Master does more work than both of his hands."—Ben. Franklin.

THE FIRMSETT POSITION

You've never had trouble since Firmsett mountings were put on the market.

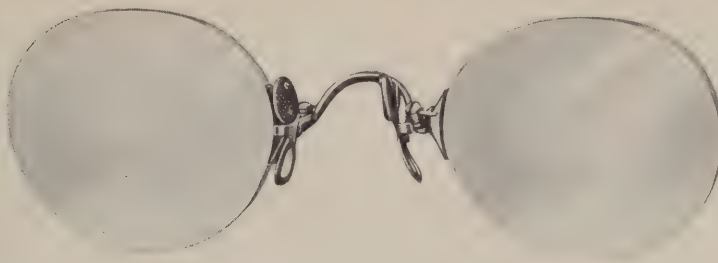
Nowadays you can take a lens, *without holes or screws*, grind its apex to a sharp and true point, and any one of five widths of the Firmsett lens box, apply your mounting with the aid of Firmsett cement, and presto! 'tis done. Just ordinary care makes the mounting of the Firmsett simplicity itself.

Obviously, the first thing is to select a lens box or Firmsett strap to fit the apex of the lens to be mounted. The lens box must be clear and free from grease. These Firmsett straps are made in three widths in $\frac{1}{4}$ mm. steps ($1\frac{1}{2}$, $1\frac{3}{4}$, and 2 mm.) to accommodate both flat and toric shapes.

With materials at hand it is therefore the work of a moment to heat the strap and lens and cover the lining of the box with the cement. When the cement is soft, press lens and strap together, and you've finished. Firmsett cement is not soluble in water, but is soluble in alcohol, so that care must be used in cleaning the lens afterwards lest the alcohol run under the strap and soften and destroy the efficiency of the cement. No effort should be made to change a lens after it is once in place; it breaks the cement.

All these considerations—ease, durability, no holes, freedom from breakage, a wider range of vision possible through the use of a smaller mounting and larger lens—contribute to making bigger business factors for you; viz., the satisfaction of a time-and-labor-saving device, the gratification of customers, and the opportunity for comfortable profits.

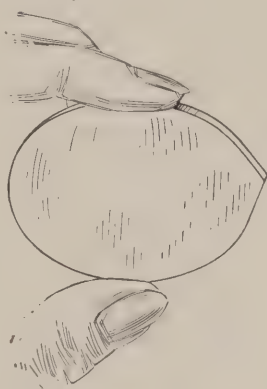
The best of it is that results justify the name given to it. Its success is established by its present widespread use after three



years on the market. What better test is there than time and the fact that the AOC stands behind it? It has finally convinced us—and we were frankly skeptical three years ago—of its utility and practicability; so thoroughly that we have

predicted a permanent stay for it.

You can get AOC Firmsetts from your jobber. Ask him.



10K SOLID GOLD

Per Dozen

798	$\frac{1}{4}$ Mountings.....	\$38.00
798	$\frac{1}{4}$ Bridges, complete.....	14.00
798	$\frac{1}{4}$ T & End, Complete.....	24.00
798 $\frac{1}{2}$	T & End, Complete.....	30.00
798 $\frac{1}{2}$ C	T & End, Complete.....	34.00
798 $\frac{1}{2}$ CC	T & End, Complete.....	36.00
798	$\frac{1}{4}$ Bridges, 3611 Pads.....	17.50
798	$\frac{1}{4}$ Endpieces.....	15.50
893	Mountings.....	24.00
893	A. or B. Box Studs.....	15.50
893	C. Box Studs.....	16.50
893	Ao or Bo Studs.....	17.50
893	Co Studs.....	18.50
03112	Fits-U Ovalex Mountings.....	24.00

1/10 12K GOLD FILLED

1669	Mountings.....	\$15.00
1669	Bridges, Complete.....	6.75
1669	Endpieces.....	7.00
1669	Temples and Endpieces.....	8.70
1669C	" " ".....	10.00
1669CC	" " ".....	11.50
3611	Bridges, 10K Pads.....	11.50
1793	Mountings.....	12.50
1793A	Box Studs.....	10.00
1793B	Box Studs.....	10.00
1793C	Box Studs.....	10.00
1793	Ao Box Studs.....	10.00
1793	Bo Box Studs.....	10.00
1793	Co Box Studs.....	10.50
03112	Fits-U Ovalex.....	12.50

PUNKTAL LENSES

No doubt you have heard of these wonderful new ophthalmic lenses about which so many articles have appeared recently in optometric trade journals.

PUNKTAL LENSES are of the deep curved (meniscus or toric) form whose curves have been so computed that the lenses are equally well corrected from their centers to their very margins in all powers, eliminating all astigmatism of oblique pencils of light so noticeable in the strong and moderately strong dioptral numbers of regular lenses.

THE AMERICAN OPTICAL COMPANY is prepared to accept orders for and supply

PUNKTAL LENSES

THROUGH THE REGULAR JOBBING TRADE



"Yes, madam, these are American Optical Company Toric Lenses.

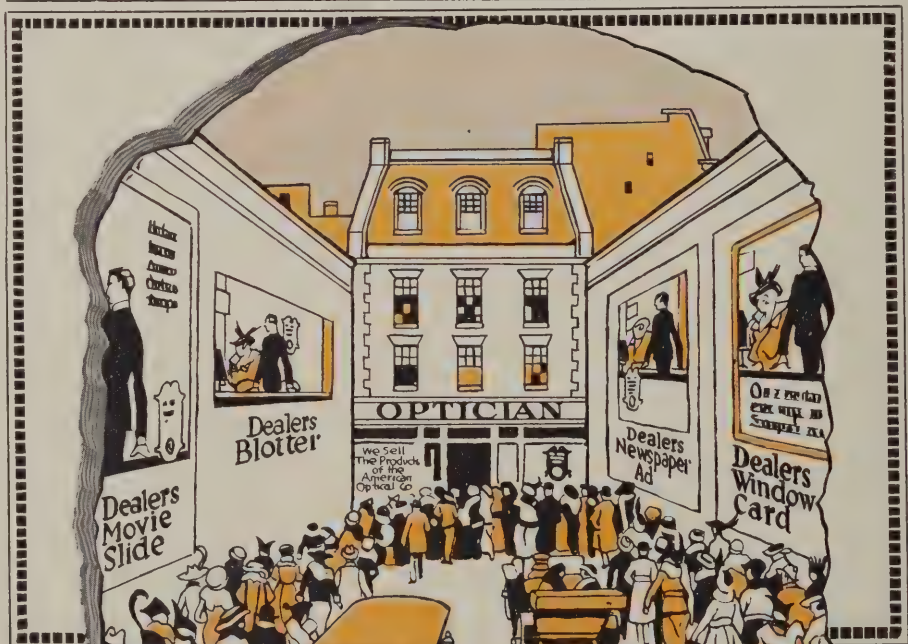
I am glad you spoke of it. So few people are careful enough about lenses. Yet nothing is more important in buying glasses. The American Optical Company has been making glasses for eighty years. It is the oldest optical manufacturing company in America and the largest in the world. We find their lenses the most reliable we can buy."

Ask *your* oculist, optometrist or optician—he knows.

AMERICAN OPTICAL COMPANY
Southbridge Massachusetts



Largest Manufacturers of Spectacles, Eyeglasses and Lenses in the World



Back of our Magazine Advertising is the office or store of the live oculist, optometrist or optician gaining patients and customers by using our dealer's helps in making our *national* appeal a *local* one. Are you using the newspaper ads, window cards, lantern slides and circulars we furnish free? If not, write for those shown here now—while you think about it.

Amoptico

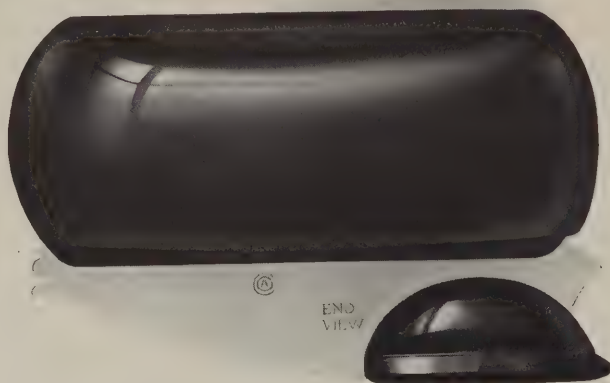
Published by the American Optical Company
at Southbridge Massachusetts

Vol. 3

February, 1915

No. XI





Japtol

What Better?

WE KNOW of no case on the market today that for attractiveness, distinction, and durability—combined with low price—can approach our famous Japtol, the black beauty of Casedom.

WE CLAIM it is the lowest priced patented self-closing case on the market today. Yet, through superior finish and the beauty of its curves it bears all the qualities of the most expensive cases. The illustration will demonstrate this to your satisfaction.

JAPTOL is made to resemble hard rubber and satisfy the most exacting critic. It is strictly sanitary, rust proof, is endowed with everlasting durability, fits into the pocket like a charm and carries a “darkest Africa” lustrous ebony finish that is irresistible.

POSITIVELY the last word in beauty, durability, and price. We warned the jobber. Here’s his salesman. Are you ready?

Order by These Numbers :

705	Finger-Piece.....	Small Flat Top,	$1\frac{3}{8}" \times 4\frac{1}{4}"$
715	Finger-Piece.....	Large Flat Top,	$1\frac{5}{8}" \times 4\frac{1}{8}"$
325	Toric Spectacle.....	Flat Top,	$1\frac{7}{8}" \times 5"$
327	Toric Spectacle.....		$1\frac{7}{8}" \times 5"$
377	Toric Spectacle.....	Large,	$2\frac{1}{8}" \times 5\frac{1}{4}"$
347	Goggle and Shooting Spectacle.....	High Cover,	$2\frac{5}{8}" \times 6"$
357	Goggle and Shooting Spectacle.....	High Cover,	$2\frac{3}{4}" \times 5\frac{1}{4}"$
367	Goggle and Shooting Spectacle.....		$2\frac{5}{8}" \times 6"$

Specify AOCo Japtol when you order.



Amoptico

General Theory of Light and Lenses

Extracts from Lecture by L. W. Bugbee of the Scientific Staff of the American Optical Co. on its Application to Ophthalmic Lenses, before Optometrical Societies in Rochester and Utica—printed by request

Before taking up the study of Ophthalmic lenses, it is perhaps desirable to review briefly the general theory of light in order that we may later refer more intelligently to some of its properties.

What is Light?

The first and most natural question may well be—What is light? We may safely answer by saying that light is a manifestation of physical force which, acting upon the retina creates in the mind the impression of vision. With a few exceptions, to which we will refer later, light is generated by substances in a state of incandescence. Light is supposed to travel in waves; so does sound, but with this difference, that while light will travel in a vacuum, sound will not, thus showing that air is necessary for the transmission of sound but unnecessary for the transmission of light.

The so-called wave theory of light demands a medium filling all space throughout the universe, penetrating inside of and between the molecules of matter and existing in a vacuum as well as in the densest of substances. This hypothetical medium is called the luminiferous ether and while we cannot prove its existence, the evidence though indirect is very strong.

The Action of Light

In order that the vibrations which we call light may be transmitted through space by the ether at the enormous speed of 180,000 miles in a second, extreme rigidity is required. Yet the planets move through it meeting with apparently no resistance. As to the action of light, imagine a luminous point such as a very small candle flame. The state of incandescence of the particles of carbon in the flame sets up a disturbance in the ether in the form of waves emanating from the flame as a center and

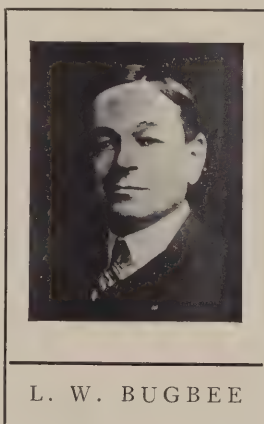
expanding with a wave front of ever-increasing radius.

Thus at a distance of 1 meter the wave front would correspond to minus 1 diopter, at 2 meters a wave front of minus .50 diopters, etc.

Wave Length Determines the Color Sensation

The waves composing the wave front differ in length, each individual color having its own wave length. The velocity with which these waves or vibrations are transmitted varies in different substances and also varies in a given substance for each wave length, or color.

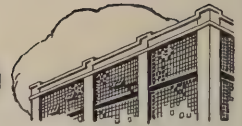
By taking advantage of this property of light we are able to form an image of an object by means of a lens composed of a transparent material. Assume a straight line drawn from our candle flame in any direction and consider that this line is a ray of light, although strictly speaking there is no such thing as a ray of light.



L. W. BUGBEE

Direct and Oblique Passage of Light Through Glass

For the purpose of illustration assume that a ray is the smallest visible line of light. Also that a beam is a collection of converging or diverging rays. When a beam of parallel rays of light traversing the air is intercepted by a plate of glass having parallel surfaces, the beam being perpendicular to the glass surface, the whole wave front is retarded equally and while the velocity is diminished while passing through the plate, the direction of the beam is unchanged. If, however, the beam of rays be incident on the glass surface obliquely, one end of the wave front will be retarded as it enters the denser medium, while the other end being still in the rarer medium will travel with undiminished speed. As the rest of the wavelets enter the glass one by one they are in turn retarded until finally the whole wave front is in the denser medium.



Light Velocity in Glass and Air = Refractive Index



The result is a complete change in direction of the original beam. The sine of the angle of the incident beam divided by the sine of the angle of the refracted beam is called the refractive index of the glass and is the relative measure of the velocity of light in a given substance as compared with air.

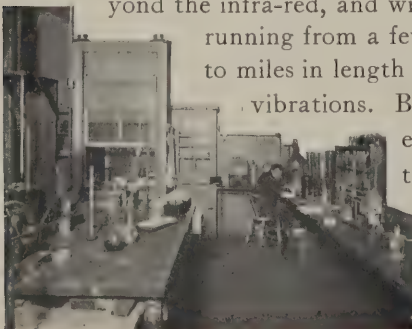
Colors and Study of the Spectrum

By taking advantage of this property of light we may form glass surfaces so that rays of light diverging from a point may be collected and made to converge again, forming an image of the original point. Imagine a landscape on one side of a lens of a given focus, and upon the opposite side at the correct distance place a screen. Light is reflected from each individual point of the landscape and the lens, collecting a bundle of diverging rays from each point, causes them to converge and projects them on the screen point by point, forming an image of the whole. This illustrates the refraction of light by a lens, which we will take up again later as directly applied to ophthalmic lenses. We have learned that light possesses colors. Obviously then a glass prism will separate these different wave lengths by refracting them a given amount in proportion to their wave lengths, thus forming a spectrum. The study of this spectrum is coming to be of great importance to the optometrist particularly with reference to the effect of the different wave lengths upon the eye.

Length and Distribution of Color and Heat Rays

The so-called visible spectrum extends from the violet, with a wave length of approximately 400 $\mu\mu$, micro millimeters, to red with a wave length of about 700 $\mu\mu$.

Beyond the red end of the spectrum lie the infra-red, or heat radiations. These have been studied and measured by Prof. Langley with his bolometer up to a wave length of 61,000 $\mu\mu$. Beyond the infra-red, and with wave lengths running from a few millimeters up to miles in length are the electrical vibrations. Beyond the violet end of the spectrum lie the ultra-violet, or actinic rays. These can be detected by



means of their action on the photographic plate; also by

their power to cause certain substances to become fluorescent.

Colors and Wave Lengths Synonymous

It is quite evident that the difference between heat, light, and actinic radiation is simply a difference in wave length; and that, likewise, the difference in colors of the visible spectrum lies simply in the sensation produced upon the sensitive part of the retina by the wave length corresponding to the color sensation realized. The relation between color and wave length may be stated as follows:—The color sensation, due to a wave length of 700 $\mu\mu$ will be an intense red and the light wave will suffer a certain amount of refraction on entering a prism or lens. If the wave length is gradually diminished to 600, the color sensation will change to salmon yellow and the light waves will be refracted a greater relative amount. Diminishing the wave length to 500, the color changes to green with a still greater relative refraction. From 500 to 400, the color changes from green to blue and violet. As the wave length becomes less than 400, the color sensation changes to lavender and finally ceases altogether. With every decrease in wave length there is a corresponding increase in relative refraction. In fact, for a given piece of glass or other material there is a refractive index corresponding to each part of the spectrum. It has been the general custom to fashion Ophthalmic lenses from glass which is as transparent as possible to the visible part of the spectrum with little regard to the effect on the eye of the invisible radiations at either end. It is true that different colored glasses such as smoke, blue, amethyst, amber, green, yellow, etc., have been more or less used in certain cases and have no doubt benefited the wearer.

Of late years a number of different kinds of glass has been marketed, having for their sole purpose the stopping or absorbing of the ultra-violet ray. Some of these are very efficient in this respect, while others for which much is claimed are hardly, if any, more efficient than ordinary white glass.

Diversity of Opinion on Ultra-Violet Rays

Before following this subject further, it might be in order to state that there exists quite a diversity of opinion as to the effects of these rays. One school argues that as the ultra-violet rays exist in nature and are absolutely necessary for their effect in killing bacteria that they must be beneficial to the eye.



And on the principle that we cannot have too much of a good thing, we should use glass which will transmit more of the ultra-violet than ordinary ophthalmic lens glass is capable of doing.

Another school argues that certain of the ultra-violet rays are harmful and should be absorbed. Still another school insists that all the ultra-violet should be cut off, even favoring slicing off part of the visible spectrum. Others still are of the opinion that the ultra-violet rays are not necessarily harmful but that with modern systems of lighting, the great danger consists in over illumination. Personally I am of the opinion that we have a great deal to learn in regard to this subject and I believe the next great advance toward optical perfection may well be along this line. A recent notable effort in this direction has been the research and experimental work carried on by the great English Scientist, Sir William Crookes. In 1909 Crookes was approached by the Glass Workers' Cataract Committee of the Royal Society and induced to investigate the cause of cataract so prevalent among glass workers.

Results of Crookes' Experiments

This research attracted a great deal of attention and a series of articles were published in the *London Optician and Photographic Trade Journal*, giving methods employed and results obtained.

Crookes endeavored to discover a glass that would absorb the heat radiations at one end of the spectrum and the actinic, or ultra-violet, at the other, at the same time leaving the visible spectrum as nearly unchanged as possible in order that color values should not be impaired.

His efforts were remarkably successful and resulted in a glass which possessed the power of transmitting a maximum amount of the visible spectrum while absorbing a large proportion of the radiations at either end. Realizing the importance of Sir Williams Crookes' work the American Optical Company secured the agency for this glass and will market it in two shades designated as A and B, being the light and dark shades respectively.

Two Shades of Crookes Glass

A few figures regarding this glass may be of interest. The light, or A shade, when 2 mm. thick absorbs the ultra-violet up to and including wave length $370 \mu\mu$ and transmits 99% of the visible spectrum as compared with ordinary glass which absorbs about 8%. It also absorbs 37.1% of the heat radiations.

When 3 mm. thick it absorbs ultra-violet up to $378 \mu\mu$. It also absorbs 39.5% of heat radiations,

transmitting 99% of the visible spectrum as compared with ordinary glass.

The dark, or B shade, absorbs ultra-violet up to $360 \mu\mu$, likewise 34.7% of heat radiations, transmitting 83.4% of visible spectrum as compared with ordinary white glass. When 3 mm. thick it absorbs the ultra-violet up to $368 \mu\mu$ along with heat radiations 37%, transmitting 75% of the visible spectrum. The figures quoted are those of Sir Wm. Crookes.

It will be noted that the dark shade actually absorbs less ultra-violet than the light but cuts down the illumination to a much greater extent and is intended for use where it is necessary to cut out the glare of very powerful lights.

New American Noviol Glass

Another very interesting glass which the AOCO is to place upon the market is called "Noviol." This glass is an American product and possesses some very remarkable properties.

What Becomes of Absorbed Radiations

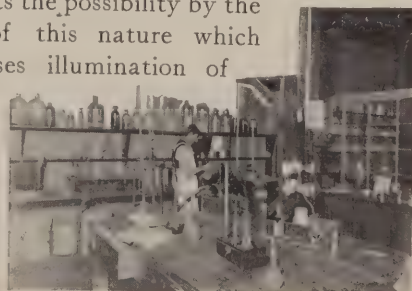
Aside from its very remarkable ability of absorbing the ultra-violet is its effect upon the visible spectrum. In fact, objects viewed through this glass appear brighter and the definition appears more pronounced than with the naked eye. Another peculiarity is the fact that this glass becomes strongly fluorescent when exposed to the ultra-violet. This property naturally suggests the question:—"What becomes of the radiations absorbed?"

Short, Invisible Changed to Long, Color Radiations

I have seen glass tested which absorbed the ultra-violet very strongly without showing the slightest tendency to become fluorescent, in which case it might be difficult to say what becomes of the radiations absorbed. Where, however, the glass becomes fluorescent, we must at once infer that the short invisible radiations are actually being transformed to longer wave lengths capable of creating color sensations in the eye. This suggests rather interesting possibilities in the use of optical glass; in other words, it suggests the possibility by the use of glass of this nature which actually increases illumination of objects looked at.

*Eye Not
Achromatic*

Another
interesting sug-





gestion along this line: The eye, as is well known, is not achromatic. As I have stated previously, for



a given substance there is a refractive index for each color in the spectrum. Therefore, the eye must receive a whole series of images of a given object coming to a focus in different positions along the optical axis and possessing different magnifications. It, therefore, becomes necessary for the eye to select the smallest possible group of these images.

Arguments for Cutting Out Ultra-Violets

It stands to reason that by shortening the spectrum by absorbing the violet and some of the blue we are approaching to this extent monochromatic light and assisting the eye. Of course, we cannot do this to too great an extent without destroying color values.

Another argument in favor of cutting down the violet and blue might be mentioned. Haze in the atmosphere is caused by refraction, diffraction and diffusion of the visible rays. This effect is particularly pronounced at the violet end of the spectrum, these rays being more refrangible than the longer red rays. One argument in favor of cutting out the ultra-violet ray I have omitted to mention, and that is the fact that the crystalline lens of the eye becomes fluorescent under their influence and may thus cause glare that is so noticeable when looking at powerful lights. I have only mentioned Crookes and Noviol glasses but would not wish to create the impression that other glasses already on the market were of no value, as this would be most unfair. Fieuzal, and even ordinary amber, show very good results; but for the same amount of ultra-violet absorption they tend to absorb quite a larger percentage of the visible spectrum.

A Question of Great Interest

A question that is of very great interest at the present time concerns the shape or form of lens to be used. So much has been said in regard to meniscus and toric lenses that the question seems worn almost threadbare and yet I am convinced that we still have much to learn.

Greater Use of Meniscus Type of Lenses

The fact that a spherical lens becomes in effect a sphero cylinder when looked through obliquely is fairly well understood and the tremendous growth in the use of the meniscus type of lens shows that the remedy is appreciated. Personally, I feel that

we should learn to use this type of lens to better advantage so as to get the best results.

Ideal Lens Would Vary With Every Power

We have learned that the astigmatic effect referred to may be corrected to a great extent by properly shaping the lens. That the astigmatic effect produced at one surface of the lens may be neutralized by an opposite astigmatism at the other surface. Tscherning discovered that for each power of lens there were two forms possible: namely, a deep and shallow meniscus. The theoretical, or I might say ideal, form of lens would vary with every power.

However, the present system of grinding these lenses on the 3, 6 and 9 base curve is a very satisfactory and practical one. If we only had to consider getting the widest possible range of vision with entire freedom from astigmatism, the task would be comparatively easy. We have, however, other things to consider. Frankly I believe that a great many people wear toric lenses because they are better looking and more distinctive and it would be difficult to persuade them to accept a lens no matter how scientific unless it was of pleasing appearance. Another point of importance is the necessity of avoiding internal reflections as far as possible. I believe, that some of those mysterious cases where the patient refuses to accept the meniscus form of lens, although apparently correct to the prescription in every way, is on account of internal reflections. When light is incident on a glass surface, however finely polished, a certain proportion is always reflected. Now in the meniscus type of lens, we have two lens surfaces both concave toward the retina and capable of acting like concave mirrors. When looking at a very bright object like an electric light a very intense image is formed on the retina. This, in turn, is reflected by the lens surfaces, acting as mirrors and focusing back upon the retina.

Tilt Meniscus Lenses

There will then be refracted image of the light and one or more reflected images, of different positions. This would, undoubtedly, cause an irritation which the wearer, if of nervous temperament, would not stand. This defect can be overcome in two ways. One by changing the form or base curve of the lens, which is not always feasible, and the other by tilting the lens slightly forward, thereby throwing the reflected images off the retina. I would suggest



when fitting frames or mountings with meniscus lenses that they be tilted in and out, allowing the wearer to state just the position in which they give the greatest relief. You will undoubtedly find that the wearer will have quite decided opinions in this respect.

Neutralization System Best Yet

Perhaps the most important point to consider is making sure that the meniscus type of lens actually worn shall take the place optically of the test lens used in refracting. Personally, I believe that under present conditions we cannot do better than to adhere to the neutralization system.

Theoretical Objections

I realize that theoretical objections can be raised principally on account of the fact that the back focus of convex lenses of different forms may vary slightly, although both may neutralize the same concave. This error is only noticeable in strong lenses, and then the error is a very small percentage of the total power of the lens. Another error constantly creeping into our work is caused by the separation of lenses in the trial frame while refracting. We place a couple of lenses in the frame and add their nominal powers together, but this method is incorrect as is also the practice of combining the powers of the surfaces of a single thick lens and considering the result the power of the lens. For instance, I read an article recently wherein an 8 diopter meniscus lens was quoted as having a -6 . and $+14$. diopter surface. As a matter of fact, such a lens would be a whole lot stronger than 8 diopters, unless it was extremely thin and consequently of small diameter.

I would like to talk about the equivalent values of lenses of different forms but of the same nominal power; also the effect the position of the principal points of lenses have upon their power, but space will not permit. One point I wish to impress, however, is the fact that in our trial cases the convex lenses, particularly the stronger numbers, are only nominally the powers they are marked, but are calculated so they will neutralize the concave. The latter being a lens of negligible thickness is made the standard, being marked its true power. This, however, causes no confusion, because if we refract for instance with a lens marked $+20$ the shop man will grind a lens that will neutralize the -20 and although the resulting lens only has a true power of about 19, it is just the same power as the lens you used in refracting, providing, of course, that your lens also neutralized the -20 .

Optometry Making Tremendous Strides

Optometry is today making tremendous strides and is rapidly taking its place as one of the world's most useful professions. We, as manufacturers, are making strenuous efforts to keep up with the procession. Let us both use the tools and knowledge of today as stepping stones for the results of tomorrow so that as we look back we may note constant progress toward our goal, which is optical perfection.

Mark Time!

Until You See Our Entirely New
Line of Low Priced Colored
GLASSES

Built with the express purpose of bringing protection glasses within the reach of people of moderate means.

To be supplied in all styles, attractively boxed for display purposes.

It will be distinctly worth your while to wait and see an AOCO line that will catch the public eye. Wait for an announcement in the immediate future.

Sharkgrip Mountings

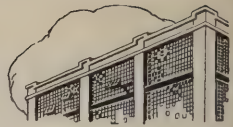
A SPECIAL ILLUSTRATED
ARTICLE WILL APPEAR
IN THE MARCH AMOPTICO
GIVING COMPLETE INFOR-
MATION AND ADVANT-
AGES OF THESE NEW
PATENTED GOODS

Ready!

We are now ready to supply sharkskin guards on Zyloware Fits-U Fingerpiece frames.

Some people experience difficulty with the (rather shallow) Zyloware bridge in getting a firm hold on the nose. Sharkskin guards possess a natural surface that grips gently but firmly on the nose with very slight pressure.

Only a nominal increase over our regular guards in price. Zyloware Fits-Us R3112 with sharkskin guards—\$16.00 per doz.



R

A PRESCRIPTION FOR SUCCESS

An Unsolicited Letter from a Twenty Year Friend

....."The big question, after all, is not the saving of a penny here and there on cost of goods, but to so prepare oneself and to so conduct one's business that he will take a worthy place in his community as a specialist in the conservation of human vision, thus building up a personal following that no price-cutting store can touch.

"I have been in the retail optical game just twenty years this fall, and every single Frame or Lens I have used during that time has been AOCo goods, except for a brief period when Blank and Company were pushing the Blank goods, but this was for only a few months. I run about Blank per year gross business, and while I am harassed by traveling men who try to switch me, I confine my business entirely to one jobber, and always specify AOCo goods. He would not think of sending anything else."—R. C. AUGUSTINE.

In our experience in the Optical business we have never seen a prescription for success so clearly and concisely expressed.

Three Laps More for the Rice Leaders. A Bona Fide Window Contest—No Nigger in the Woodpile Here

This is to introduce Elwood E. Rice, ladies and gentlemen. He is depicted here anxiously looking your way with an intense desire to write you a check for \$2,000. Handsome he is! handsome he does!

Here's your chance to trim somebody for \$2,000 in a perfectly legitimate way right under the protection of the Sherman Law. You are invited to step forward with a window dressed up in model shape and absorb a year's salary with a profound

bow, appropriate genuflections and a thank you.

Now this means just a little dividend-paying effort on your part. It requires only a little intensive thought for you to conceive and execute a novel window display that will bring home the bacon. At your right hand in every movement you make you have the Rice Leaders of the World, an association comprised of the leaders in every branch of industry in the United States and foreign countries.

We were chosen in the optical industry as its representatives. This gives you a unique opportunity to come into the contest. Three months to go! Three laps more before they cross under the bar. Never hesitate on a chance like this. There's no nigger in the woodpile; everything's abso-

lutely bona fide in every respect and if you're wise you'll at least try for the prizes. You'll be surprised at the results you'll get in your own neighborhood, as well as in the contest. A beautiful Rice Leaders' banner for window display sent to you free. Write to the Rice Leaders of the World Association, 358 5th Ave. for full particulars.



American Optical Company
Makers of Eyeglasses, Spectacles, etc.

BY INVITATION
MEMBER OF



NEW YORK, U.S.A.

Mr. Rice wants to write you a \$2,000.00 check for making a prize window trim.



Amoptico

Reg. in U. S. Pat. Off.

Vol. III February, 1915 No. 11

Published Monthly by
American Optical Company
1833-1915

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Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
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Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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Imagination is a Wonderful Thing

Now as to screwless mountings. We hear all sorts of tales about the wonderful holding-on qualities of various makes. The first fellow said his construction with his cement would hold up seven pounds. The next fellow went him one better and so on. When last we heard the weight lifting advertising contest had reached fifty-eight pounds. But why stop there? We have the last say; we might add -----.

It reminds us of the story of the three clothing merchants who were in keen competition on the same street—but you must have heard that one.

What we started to say was something about screwless mountings. We have heard it remarked that screwless mountings were going to seriously cut the dealers' profits by reducing breakage of lenses to a minimum. If I was a dealer I think I'd be tickled to pieces to have my competitors take that short-sighted, narrow view. Of course, they'll reduce breakage! But if you stop to think you'll see where this is one good, live, strong, talking point in their favor. That's what will make sales and satisfied customers. If you can't see that as an advantage your friend up the street will, you may be sure.

Because, the man who is narrow-minded enough to see profits before his customers' satisfaction, who tries to block progress because he thinks it may reduce his profits, that man is blocking profits, not progress. You can bet on that and we'll hold the stakes! Progress marches right on regardless of time or the individual. Get on the Steam Roller of Progress; if you don't get on it it'll steam over you.

A Word to the Wise

Judge Elbert H. Gary, extracts from whose address to two thousand New York Merchants we print here, is chairman and guiding genius of the billion dollar U. S. Steel Corporation.

Aside from this distinction he is considered by many to possess the keenest insight of all the great business minds of his time into the complexities of modern business. Consequently his lightest words carry more than ordinary significance, particularly when it is realized that they are heard

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and read by corporations and men, and accepted by them as a basis for future action.

Here is his declaration of faith, which we print enclosed within quotations from editorial comment by the *New York Times* on the address:

"It is good to hear Mr. Gary say, as he did at the Merchant's Association luncheon, that '*the extreme optimist of today, if the people of this country take advantage of their opportunities, will ten years hence be considered to have been very conservative in his estimate of future prosperity.*' It is even better to hear him say, and to agree with him, that the moral basis of this future prosperity is as substantial as the material basis. Business management, morals, and conduct are on a higher level than ever before, and '*there is more coöperation between all classes of people, a recognition to a greater degree than ever before that it is to the advantage of each to have all others prosper.*' Preparation for prosperity is Mr. Gary's remedy for present troubles. It is a gem of thought, of purest ray serene, when contrasted with the pinchbeck philosophy which preaches a gospel of despair because of the troubles it has caused."

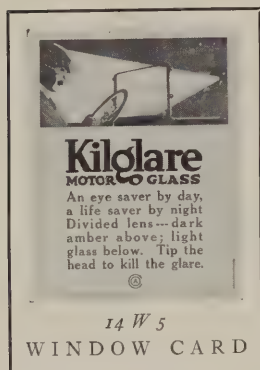
Tools are Vital

There's a lot more to the seemingly simple matter of grinding a lens surface than might appear at first glance. Good work is only possible with good tools. Take the matter of iron tools for instance. Do you know that AOC tools are made of a special grade of fine grain iron? Ordinary cast iron is not good enough—we specify—and get the right grade.



Kilglare Motor Glass

Whether You Swim or Not Here's a Life Saver



By actual count* about a million humans between coasts are at present booing from boudoir to office about hard times. They actually feel so bad that a good, big, fine, large ocean to drown in would suit them better than anything else in this dreary old world. We'd help them too.

But what would be the first thing you'd holler for if a sizable ocean got its breakers around your neck? A nice pair of husky Life-Savers, n'est-ce pas?

Well, then, if you're all at sea for a pair of "life-saving-by-night, eye-saving-by-day" goggles, we are ready to do the humane and handsome act by throwing out a pair of Kilglare life guards to you. You'll grab this opportunity if you're wide awake.

Now listen! There are goggles and goggles! Some Kilglare and others don't. In order to impress your large motoring public with the fact that our goggles *do*, we have conceived, executed and distributed the positively beautiful set of advertising matter displayed here for your edification and profit. If this will not catch the public eye, then here's where we sink.

This box as you see it is the original container in which half-dozen Kilglares are sent to you. As it stands here one pair of glasses in its Japtol case has been taken out of the box, the box then turned upside down—and the case and glasses effectively displayed thereon. Now add the Kilglare card which comes with every box; set it up around the edge as a background and you have the most effective display in this line of goods ever seen.

The box is made of heavy brown material, a soft, rich color on which the lettering stands out with

compelling vividness. The borders are finished in appropriate red!

The beauty of it all is that every box is complete; here's what you get with your order, for which you don't have to write us a line:

A beautiful red and brown container, attractively lettered with no direct reference on it to the AOCs.

One-half dozen pairs of Kilglare Motor Glasses.

Each pair of glasses in a beautiful Japtol case.



14 F 3

A vividly colored background display card for the box.

Our circular 14F3, printed in two colors in each box, descriptive of the goggles.

Everything complete just as you see it on this page plus a window card, which we will send on request.

This display will sell Kilglare Motor Glasses for you—of that we are perfectly confident. And you never before had as simple, practical, and compact an advertising display so capable of selling the goods for you. Motorists will soon be on the high roads again. Now's your time to catch them on the wing. What better help could we give you?



*See U. S. Dept. for the Investigation of Mental Deficients.

What AOCo. Advertising Service Offers you

THOUSANDS of oculists, optometrists and opticians are making regular use of this service. We know, however, that there are still a good many who either do not understand exactly what AOCo Advertising Service offers, or are not yet convinced of its value. We believe, therefore, that it is worth while setting forth briefly in these pages exactly what AOCo Advertising Service is, and what it can and will do to increase your business.

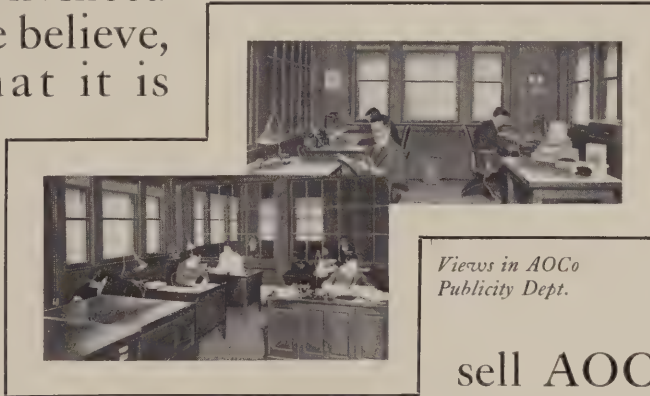
The AOCo does not pose as a philanthropic organization. We are frank to say that the reason we want to increase your business is because we believe it the surest, quickest way to increase our own.

For that purpose we have

been enlarging our Advertising Department for several years, past, increasing its facilities, adding to its staff, installing a completely equipped printing plant. And in all this work the one big object has been to organ-

ize an up-to-date Advertising Service that would be of the greatest practical assistance to those who

sell AOCo goods. Just what this AOCo Advertising Service offers is described in following pages.



*Views in AOCo
Publicity Dept.*



*View in AOCo Printing Dept. showing battery of
job presses, imprinting dealers helps*

REGULAR MONTHLY SERVICE



This means that we are ready to send you every month—without charge—a new set of advertising helps, each set including an attractive poster window card, newspaper electrotpe, lantern slide for use in moving picture house and any reasonable number of blotters or folders.

All these advertising helps will have your name and address printed on them. They are prepared so as to advertise your store and your professional skill first of all, and then incidentally your store as the place where AOC Co goods are sold.

Quite as important is the fact that all these advertising helps tie up each month with our advertisements appearing in the big national magazines reaching over 25,000,000 readers with every issue. The accompanying illustrations show how national and local advertisements follow the same general line in pictures and reading matter. Suppose someone is favorably impressed by one of our magazine advertisements; then he sees your local newspaper ad, or your window card or your movie slide



March adv. appearing in National Magazines

or blotter. Isn't he going to recognize your store right away as the easiest place to buy A O Co goods? And aren't you going to get his business?

There you have the whole idea of AOC Co Advertising Service in a nutshell—increasing our sales by increasing yours.

If you want to go into advertising partnership with us on that basis all you have to do is to send us your order each month for these advertising helps, telling us exactly how you want your name and address imprinted on them.



March slide for the movies.

SPECIAL INDIVIDUAL SERVICE

THIS means that our Advertising

Department is always ready to help you with any special optical advertising that you may want to do. For instance, if you want to get up a circular letter, featuring some particular line of goods, or wish to have a newspaper advertisement written announcing some special sale—tell us about it, and let our advertising experts help you. We are always glad to give you any reasonable assistance of this kind without charge, and our offer is by no means limited solely to AOCo goods. We want to help you do the biggest possible business all along the line, for we believe that in the end the bigger business you do the more AOCo goods you will sell.

We stand ready, in a word, to advise you to the best of our ability on any problem relating to the advertising and selling of optical goods. In addition to the regular monthly service, we carry in stock, ready for prompt shipment many special advertising helps for special purposes. These include signs,

posters, counter, window and wall displays, a wide variety of booklets, circulars, etc., and many other attractive advertising novelties. In most

cases these special advertising novelties are furnished without charge. We invite correspondence on the subject. Write us what you want to

accomplish and we will tell you what we can do to help you.

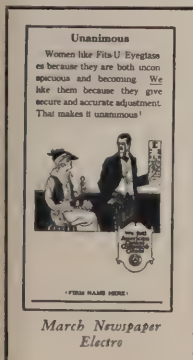
Don't forget that you can help us, too. It has been our experience that many of our best advertising and selling ideas have been developed from the experience and suggestions of the oculists, optometrists and

opticians who handle AOCo goods. We are, therefore, always glad to receive frank criticism and helpful suggestions as to how we can strengthen and improve AOCo advertising helps.

This, briefly stated, is the purpose of the AOCo Advertising Service. It seems to us that most of you who read this will have something to write us about—either something that we can do to help you, or something you can do to help us.

We have tried to do our share.

Will you do yours? Let us hear from you.



IT PAYS TO ADVERTISE

Some day that statement will be as generally accepted as "two and two make four."

We know that advertising pays because we have proved it by actual experience in our own business.

But, mind you, it must be real advertising to pay—the right kind appearing regularly in the right place.

If you want to make a fair test of what advertising will do for your business, the AOC_o Advertising Service is ready to help you. Sit down and write us to-day. Give us full details of just what your proposition is, the class of business you are after, the difficulties you must overcome and exactly what you hope to accomplish. Our advertising experts will give careful consideration

to your problem and outline the plan of advertising that will, in their opinion, best accomplish your purpose. This advertising plan will then be submitted to you and, if approved, the material necessary to carry it out will be sent to you at once.

If you will join us in advertising team work of this kind, we know we can prove to you that—

"It Pays to Advertise."

In writing please address:—

Publicity Department

American Optical Company

Southbridge, Mass.

Toric Lens Window Display \$100



How One Retailer Makes Use of this Display

The AOC_o Toric Window Display is shown above. Many other photographs have been sent in which are equally effective in their appeal and interest. Put this display in your window and see how it makes people stop.

It will bring people into your shop where they learn why Toric Lenses are the most satisfactory to the patron. At the same time you know Torics are the most profitable for you to sell.

The set consists of thirteen cards printed in large, legible type. Each card tersely but fully describes some step in lens-making. Accompanying the cards are samples of Toric Lenses showing all the important stages of manufacture.

The samples are as follows:—

- | | |
|--|------------------------|
| 1 Flat Blank. | 1 Moulded Blank. |
| 1 Blank attached to hand surface grinding block. | |
| 1 Blank "roughed out." | |
| 1 Blank smoothed, second grinding. | |
| 1 Blank fined, third grinding. | |
| 1 Blank polished | |
| 1 Toric Lens polished both sides, uncut. | |
| 1 Toric Lens, cut. | |
| 1 Toric Lens, edged, | 1 Toric Lens, drilled. |
- Remittance should accompany order.



Vogue M. Glass Esq., Close Friend and Guide to Every Motorist and Hunter



14 W 3

On this side of the big tent gentlemen, we have Vogue M.* Glass, intimately related to Kilglare Glass, both known affectionately by motorists and sportsmen the country over as "The Big Brothers of the Motor Highways!"

No! don't look a bit alike; just as different as two peas on a knife, but loyal as the day is rainy. Vogue works mostly by day and is an expert teacher of shooting; an inveterate enemy of Dusty Roads and Sunny Rays. Kilglare on the contrary is death on Night Glare.

Most people say they represent "the survival of the fittest" in motordom. Certain it is that most other species of Motor Glassia have become extinct. We picked them out to give you a chance at "natural selection." Be a little Darwin yourself, friend dealer!

You notice don't you how handsome Vogue is? He is *there* at the wheel, believe *us*. Never saw him when he wasn't stylish; popular as can be and when he isn't in the car, he's out teaching amateur and expert alike how to shoot straight. You never know what clear sight is till he shows you. His is the hand behind the bull's eye every time. A light-bounding gazelle hasn't got a chance with Vogue (we call him by his first name) behind your rifle.

That's why he's in such popular demand, always ready to help, a handsome, distinguished young fellow and a great mixer. Anybody who's met him will soon have him on a pedestal in their little shop window.

For we have secured exclusive rights on the use of his photograph and name. Under both we are presenting him to the public in a white box overcoat, where we feel he'll do more justice to himself and the dealer alike. It is white with ornate labels in orange and black. Inside are six little V. M. Glasses in box overcoats, exact duplicates of their father in looks and promise; and each junior V. M. Glasses

is further enclosed in a fascinating black Japtol cases.

But to give Vogue Motor Glass still greater public effect and prominence we have reproduced it on the above window card.

So that if you are wise, you will send for it and display it before the fastidious and stylish who pass your window daily with thoughts of Spring and returning motor days already half awakened.

Here is a rare combination: a motor glass, stylish, up to date and of superlative manufacture in every sense, aimed solely by its intrinsic worth at the most fastidious motorist and hunter. Then a display shown here, with which to attract and sell this desirable class of trade. It is beyond us how a glass of this wide popularity, under such a name and put up in such an attractive manner can fail, if properly used by the dealer, to attract the public and be a great asset in your business.

It cannot fail to attract for you. Possesses every attribute of magnetism and attractiveness we could possibly give it. And if you will enlist in a Quality appeal to your customers about Vogue M. Glass, we can see a large and quick turn over for you. But this only applies to those of you who are alert to see and grasp the possibilities in motor

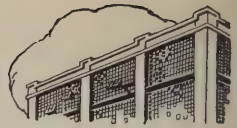
glasses, particularly at this growing time of the motor year.

We are anxious to serve those who realize the potential value of the time, thought and money we have expended to provide these displays. Also those who are willing to act on them.

If you're out to catch the cream of the motor glass business in 1915 your appeal is Quality of which we are now—as always—firm advocates and supporters. And the opportunity lies before you. Seize it! Ask any jobber to show you Vogue Glasses Nos. 3388, 3398, 3688 and 3698.

*M stands for Motor and the spirit that moves it.





The History and Prophecy of Screwless Mountings

While the method of mounting Rimless Lenses with the hole through the Glass, and a Screw, is undoubtedly the oldest method still in use, few realize that the mounting of Lenses in Straps with the aid of cement, or similar adhesive, dates back nearly half a century.

It is amazing how many ways there are for cementing a lens to the mounting, requiring only a good cement, of which there are several, and a lens clip. Here are some with which we are familiar:

1. Removing all the oxidation from the inside of the clip until the metal is clean and bright, and then coating the bright surface with a lacquer which will melt on the application of heat and be either destroyed or made to act as a flux to the cement which is applied to hold the lens.

2. Coating the inside of the strap with a layer of cement which will adhere thereto and be ready for use when the lens is inserted in the strap, the application of heat only being necessary.

3. Making a pocket, or recesses, in the lens or in the strap, filling the recess with a cement or a soft solder that will melt on the application of heat to the parts; the cement or solder will adhere to the strap and lens on cooling and unite them securely.

4. Scoring the lens or the strap or both to form cement pockets.

5. Cementing projections on the lens that will fit into corresponding recesses on the strap.

6. Scoring cement pockets in the head of a lens screw.

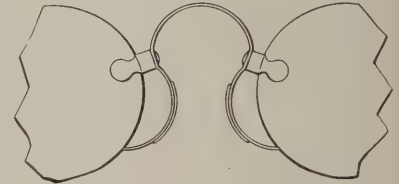
In fact, there seem to be as many ways for cementing lenses to straps as there are individual tastes to please, and there also seem to be as many cements that will do the trick efficiently as there are ways of modifying the parts.

The preferable form of cement, however, for many reasons is the heat applied form. It sets quickly, almost instantaneously, does not mark or mar the lens, does not evaporate or contract on drying, or deteriorate as quickly and is not affected by moisture.

In placing the screwless mounting on the market the ACO has considered all of these well known methods and believes that all conditions taken into account, both from the standpoint of appearances and service, it has produced a mounting as preëminent in its class as all other classes of goods bearing the ACO mark, long recognized by the trade as the criterion of worth and finish.

One of the early patents was issued in 1868, to C. N. Dunham, of Philadelphia, Pa. While the method employed might seem crude, it is not so far removed from the design of strap so commonly used today. (See illustration No. 1.)

In 1891 a patent was issued incorporating the use of a cement for adhesive. This strap, in appearance, was not unlike the

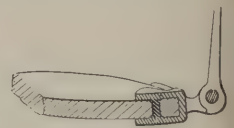


No. 1

regular screw type of strap formerly used. With this the sides, or faces of the lens were roughened at the point where the portions of the strap came in contact, causing the binding medium, or adhesive, to adhere more closely to the lens. The essential feature in this invention consisted in grinding, or otherwise roughening, the lenses at these points, which afforded a suitable surface for the reception of the cement used.

In the year 1895, a patent was issued for a mounting very similar to the one previously described, intended to be used with drilled lenses, which were countersunk on both sides, the hole being filled with soft solder, or a similar material which could be fused. After placing the strap in position an application of heat to the strap produced a soldering cementation, or union of the strap and plug, filling the hole in the lens. This patent was acquired by the Americal Optical Company, who are now in a position to furnish a mounting of this construction, which is meeting with considerable demand, with the idea of its being used in connection with drilled lenses, only employing a cement as an adhesive, rather than as a solder. (See illustration No. 2.)

We also offer still another construction, as shown by illustration No. 3, with a tip or projection and we can also furnish straps which are countersunk on the inside



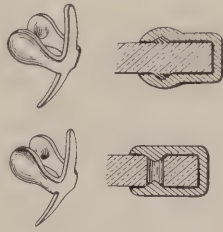
No. 2

surfaces, for use with lenses which have not been drilled. This method permits a greater opportunity for the reception of cement, naturally offering a better holding surface. Both of these constructions should prove popular with the Optometrist and



Optician who wish to adopt the new cement construction.

While the accepted designs of screwless mounting straps are in the nature of a box, or receptacle, we predict that a very popular method of mounting lenses will still be with the regular screw-and-hole type of strap, merely obtaining added security and absence of a chance to become loose, by using a cement in addition.



No. 3.

Many Optometrists and Opticians have used AOC Co regular style of strap as a so-called screwless mounting in quite a novel way. There are, and will be, a great many who favor the old strap in preference to the box construction of the regular cement type. To overcome the inherent objections to the screw for securing the lens they have merely cemented the lens in a regular strap and in the hole in the strap set in a glass screw, from which the lower or threaded portion had been cut off. Thus to all appearances the mounting was of the regular hold and screw construction.

Others have used the regular strap, cutting it off back to the countersunk hole to make it less conspicuous, using a cement to fasten the lens.

There have been several patents issued in this country on cement straps, which necessitated special grinding and drilling of lenses. One of these was issued in the year 1897. The construction of the strap was almost identical with those being offered at present, excepting that a slight depression was ground at both sides of the lens with the idea that this depression would offer greater security. This was manufactured by the AOC Co for one of its customers, using amalgam as the uniting medium, and we are prepared at the present time to furnish a similar type of mounting, using a cement instead of amalgam.

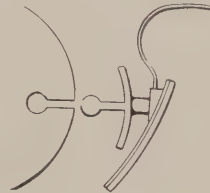
In 1901 another patent was issued, covering a cement construction for rimless eyeglasses or spectacles. In shape this strap was identical with those now used, the essential difference being in the manufacture or method of producing the strap or box, with the idea of obtaining additional strength if the box was blanked or died out in a flat piece; and after being formed it was united by soldering or brazing, rather than formed in a solid piece.

In 1903, two years later, a very interesting construction was patented which employed the use of cement for securing the lens to the strap. This called for the formation of a pocket in the strap to receive a fibrous lining. This pocket mechanically held the lining, it being inserted for the purpose of offering a surface to which the cement would

adhere more closely and securely. This construction, for some little time, has been manufactured by AOC Co for one of its customers.

A year or so later a patent was obtained on the strap construction intended to be applied to the edge, or periphery, of the lens, the idea being to do away with any obstruction in the field of vision, but unfortunately, due to its design, it did not offer a very rigid or permanent construction.

In May, 1906, foreign patents were issued on a screwless type of mounting, the principal idea being to lessen the conspicuousness of the strap, by the means of securing the lens to the mounting by providing the glass with a thin recess in the edge, extending from the outside of the lens to a small hole, approximately in the same position as the hole commonly used in the screw type of lens. In this hole and slot were introduced and cemented a correspondingly shaped solid pin, with a projecting member connecting the pin with a stud or post. (See Illustration No. 4.)



No. 4.

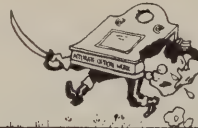
While we firmly believe that the method of cementing the lenses and mounting has come to stay, we know that there will always be a call for the screw-and-hole type of strap; it is not our intention to lessen our activities in any way toward the improvement of this latter type of mounting, nor any of the component parts so necessary for its use.

Anyway, the Hat Enjoyed Itself!



Just as we found it "after the ball was over," not under an M21 surfer—pardon this ad—but upside down behind a bowl of Bryan's ferment at the AOC Co Firemen's ball.

The fellow that left it there sure didn't want the hat to miss a good time. But Chief Phipps was mad as a hatter and says anybody who would abandon the pride of the AOC Co Fire department in the Town Hall right where the Foxy trotters could step on its little wee self is a disgrace to the department!!!!*, etc. "Humph," says he, "who'd expect the selectmen to find it where it was and rescue the pathetic thing; they're all teetotalers. Some Napoleon in this company met his Waterloo an' if I find out who Dame Terpsichore grabbed this headless wonder off of, . . . but, what do I care! The boys had a great whirl. Never such fun since the time of our stables fire when the hoseman nozzled a brave fireman off the ladder 'stead o' hittin' the barn. Just's he was about to carry down a hoss too!" Some fire! Some dance!



AOCO Sends Model Company to the Front Stirring Address by Major Beaumont Sends Boys Off Dedicated to Service

"Halt!—Left face!—Rest!"

Note the lightning response to command! See the automatic and precise execution, the perfect alignment of the AOCO Model Company! Officers faced to the front at salute! Captain Plaster and Lieutenant Paris on fixed posts! Armored trucks in the rear, awaiting orders.

"Report!" rang out the command from the reviewing officer—Major Beaumont of the Second Battalion.

"All present or accounted for," responds the captain, without so much as moving a muscle. "I'm proud of them, sir! Not an eyelash wagging among the 200 of 'em, sir; each man behind the wooden breastworks, resolution on every face!"

"Very good captain!" answered the major.

The captain's face grew white with suppressed emotion and pride as we passed around the ranks on the tour of inspection.

"No finer body of men in the world, major! We received your call to service yesterday, and in twenty-four hours the boys were completely mobilized and accoutred.

"Can't hardly keep 'em back, sir; they're trained-to-the-minute and transported with joy at the call for service."

"We have drilled and sent out two companies of 150 each already, Captain Plaster. You will have hard work excelling their record."

"Yes, sir! I know that! But Sergeant Cast has moulded and drilled these boys 'til there's nothing they can't do! Nothing'll hold them back. They're eager under all conditions. We've tried them out in all sorts of weather and nothing affects them but enthusiasm. Not a man's had to drop out of line, sir! They're absolutely fearless in the face of death; cold nor heat don't seem to affect them and never sick with rheumatism or other ailments."

"Why, sir, they've been drilling eight weeks on the factory grounds without so much as a drop of water or drink of any sort!! Couldn't ask more of a camel, sir!"

"I'm deeply religious too as you know, sir, and I've never heard a swear word out o' one of them. A most remarkable record. Have you heard from them as 'as gone ahead of us major?"

"Yes, captain. The reports of their service are wonderfully inspiring. Poor Lieutenant Mould of 'A' company had his head knocked off near Fort Hardy by a Colmascope. Alas! poor fellow, I knew him well—made of stern stuff too, he was. But they're falling for our men all along the battle line."

"Call your men, Captain Plaster, I'd like to address them before I send them to the front!"

"Company, 'ten—tion! Right dress! Front!" Every head came quickly to the front and the line awaited the major's words with unswaying expectancy.

"Boys," he began, "if what your captain has told me is true, you are about to be the greatest protection our profession has ever had. But you are not to be satisfied with protection. The duty before you is peculiarly one of Service.

"Your country—the AOCO—is sending you out with sorrow. It appreciates the seriousness of the sacrifices you may be called on to make; it may mean the loss of an ear in this town, the cutting out of an eye or nose in that, or the loss of life itself. But whatever happens we know you will face steadfastly to the front and accept whatever service may be put upon you.

"So in dedicating you to this life of Service we know you will conquer oftener than you will be defeated. That spirit of enthusiasm which animates you as I glance over your Model company is going to reflect abroad the AOCO spirit of increasing vigilance over the fortunes and business of the great profession you are to serve: only tireless and unremitting application to duty in their behalf will enable you to help them.

"Go! fight the AOCO fight for our friends and stand by for Service under every condition. You are equipped for Fits-U, Varsities, Spectacles and all mountings, with a complete set of cards for each. Follow the Flag! And to those who appeal for your aid, give the AOCO countersign—\$7.50, F. O. B., South-bridge,—and flash your signal to the nearest jobber.



Pat. Pend.

OFF
TO
FOLLOW
THE
FLAG



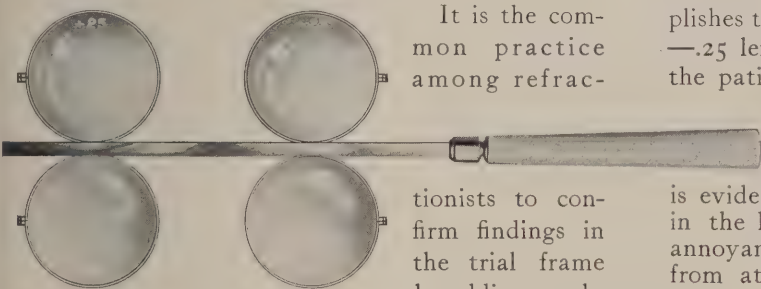
200
AOCO
OPTICAL
SCOUTS



Our Handy Confirmation Test

All the petty annoyances and delays given the worker by crude instruments and machinery are now being gradually eliminated. Where twenty, fifteen or ten years ago practical scientific experiment was unknown, now a large part of the time of experts is given to scientific investigation in the laboratory. In this constant up-reaching for labor-saving devices we have had our humble part.

That is why we hold up for approval or criticism another of our late improvements—the No. 3007A handy Binocular Confirmation Test—a slight improvement in its way on our other model and perhaps not important enough to warrant the attention we are giving it here. But nevertheless, it is a distinct saving in time and annoyance—in the long run—which two lenses together can effect where only one was used before.



It is the common practice among refrac-

tionists to confirm findings in the trial frame by adding or sub-

tracting a small amount of spherical power, to act as a check in the objective method.

If this can be done with both eyes at once where one eye at a time was tested formerly, obviously our No. 3007A is a distinct and desirable improvement over our other Model, No. 3007.

When the proper correction is obtained the final step in the examination is to check the results to avoid any possibility of over or under correction.



The handy Binocular Confirmation Test accomplishes this by alternately placing a pair of $+ .25$ and $- .25$ lenses before the trial frame and questioning the patient. If neither the plus nor minus spheres add to the patient's sight the correction has been accurately estimated.

The utility of this time saving device is evident from the illustration. Half the pleasure in the little instrument—its freedom from petty annoyance—is in its “feel.” It tapers gracefully from attractive celluloid handle to Alumnico tip and saves you minutes of worry by its readiness to step forward at a moment's notice and perch on the bridge of a nose, with a simple and dexterous turn of the wrist.

We make small profit on them; you should feel the artist's pleasure in possessing such an ornamental, compact, useful ophthalmic instrument.

Price \$3.00 each, from your jobber.

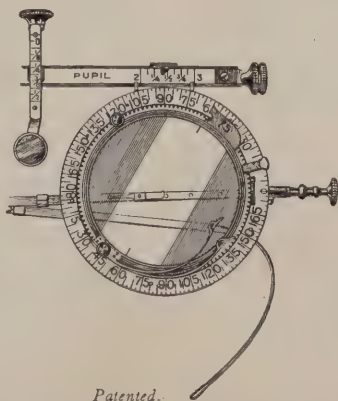
Limeburner Index Trial Ring for Cylinders

Every Refractionist knows from sad experience how difficult it is to obtain the exact axis at which a cylinder correction must be set to produce the best results. He also knows how very easy a matter it is to make a mistake in reading the axis from the scale of the Trial Frame when the final test is made in the examination.

We are now placing upon the market a patented ring for cylinder lenses which will do away with much of the trouble of this kind. It is known as the “Limeburner Index Ring for Cylinders.”

The ring has a pointer index soldered on its outer circumference near the screw joint. The axis of the cylinder is set in a line with this pointer, so that the position of the pointer shows at once the axis of the cylinder. As the index swings close to the scale there

is no possible chance for the Refractionist to make an error in reading, even though the Refracting Room is not well lighted.



Patented.

The index also serves as a handle to the lens, and by its use lenses can be changed much more rapidly than can be done with the ordinary cylinder rings without handles. The index is not long enough, however, to strike the nose piece of the Trial Frame even though the cell is drawn in for the smallest pupillary distance. A complete revolution of the cylinder can always be had. Focus numbers are stamped upon the index.

This index ring was devised primarily to be used with our Rhoads' Full Circular Scale Trial Frame No. 2467B, but it can be equally well used with our 2387B or any of our revolving cell Trial Frames.



Crookes Glass—and the Power Behind It Is Chance Brothers

The Largest Optical Glass Plant in the World Allied with
American Optical Company

Allowing for the ignorant few who are blissful for having thrown our beloved January AMOPTICO into the waste basket we are now assured that Sir William Crookes has appeared before our January readers and duly impressed them with the value and importance of Crookes Glass.

We know this because oculists, optometrists, and opticians, it is said, are all descended from the same species as ourselves, and can hand out crackerjack knocks when things are not just as they should be. The upshot of which is that we have received no kicks, but substantial wholesome orders, from which we conclude that Sir William Crookes has put the last word in tinted glasses on the market. Things are in quite a healthy way in the tinted glass business and the momentum of Crookes Glass sales is increasing in everwidening leaps and bounds.

Now then! We have as perfect a tinted glass as has been made to date. Its properties are scientifically correct and practically useful, and it nets you an excellent profit. But behind all this is the Works that produces the Glass—the vast plant of Chance

Bros. and Co., Ltd., at Birmingham, England, here reproduced. The American Optical Co. by agreement not only receives all its Crookes Glass from Chance Bros., but also takes the entire spectacle and Centex glass output of this works.

Chance Bros. and Co., Ltd., is the largest optical glass plant in the world. It maintains a highly trained staff of metallurgists, chemists and technical experts who are at the service of the American Optical Company. It is almost a matter of tradition in England for British scientists to turn to Chance Bros. & Co. The company is intimately allied with the National Physical Laboratory, London, a semi-government institution, and for years has been the center of the great English developments in the Optical industry—the greatest medium in the working out of experiments in all kinds of glass. So that in making this alliance we are now able to offer you all that the most exacting can ask—scientific and thorough English manufacture, speedy delivery and a product perfectly finished in our own AOCo plant.



Reverberations From

The Council Chamber

'Twas one-fourteen in the optometrist's shop. A spritely figure, surely that of our machinery salesman, came down the street with a combination of perspiration and satisfaction radiating from every pore, and cigar tilted Joe Cannon-like from a row of cemented mountings. The whole attitude bespoke genial determination to force his way through the crowd and the chances for success were considerably enhanced by the possession of a protruding front on which rested the ashes of said cigar, seemingly scattered there as a non-skidding device to assist safe passage.

Suddenly, as he continued his triumphant journey, three figures rushed by him and disappeared precipitately through the doorway.

"Tinkle—punkle—yiddle" went the bell above the shop door as the three "long 'n narrows" glided beneath it.

"Clerks" he sniffed to himself. "Clerks, you can spot 'em every time—long, narrow bodies 'n showcase overhang."

With this majestic speech he passed in, leaving a blue streak—of smoke—behind him, by the row of clerks who had already acquired the AO loop and ducked through the curtain that led from the main office into the sanctum sanctorum of Sir Oliver Optic himself.

"Welcome, Machinery, you are just in time," sang the cheery optometrist.

"Yes, I got your ringing welcome as I came in! I could hear its little tinkle—winkle, and it wafted me back to the far-away purplish Orient; some call it Occident! There I dwelt momentarily on recollections of eyes and flatirons cast slantward across a starchy area in my youth. Yes! there's a world of sentiment—and perspiration—in a little tinkle.

"Justee little doorbell
Pluss eelittle starch
Makee melly public
To Lee's laundry march,"

he hummed mock heroically. "What a pity 'tis there's not more wringers for —."

"S'posin' you cut this ragging and talk sense, Machinery."

"All right, sir. Here goes! I'd like to know first of all about the 'status quid cud' of the business of Opto, the well-know Metrist."

"What new line has the Amoptico Life-Saving Station thrown out to you since I charted out the shoals of cheap lines?"

"Well, I'll tell you what I've found," said the optometrist with a comprehensive sweep of his hand inclusive of the whole office. I've found that the optical business—like jewelry—is just what you make it. If you buy cheap goods or display goods in a cheap way, you get a cheap class of trade. And it is less profitable any way you look at it. Not only is this true of any business, but it is peculiarly so of ours, because optical and jewelry lines offer wonderful possibilities for sales.

"Few people realize that all the factors which enter into the manufacture and sale of jewelry—like beauty, design, and appeal to one's æsthetic qualities, likewise apply to the optical business. Consequently, the possibilities for display and sale of optical goods have not yet been anywhere's near capitalized as they should be. Furthermore, the optical public is not a day-by-day purchaser. Breakage is about the only thing that brings a customer back, and very seldom at that.

"What does this mean? It means that when this occasional buyer comes to your store he wants the best; or, even supposing he does not want the best, if your display is such as to attract his eye and appeal to his sense of the beautiful, he will purchase where he originally expected to buy cheaper goods. In other words, optical lines have a purely "Quality" appeal throughout, regardless of the person's means or station buying them. For as sure's you're born there exists in every man the instinct to get something that his neighbors have not, even though he has to stint and it may cost him a higher price than he can perhaps afford.

"Now, then!" he continued rapidly "if you're satisfied to sell cheaper goods and to ignore this craving for the better and more beautiful articles which is part and parcel of human nature, a cheap class of trade will visit your store after your cheaper goods, of course!



Shorter Bridge—For P. D.—Loss of Strength

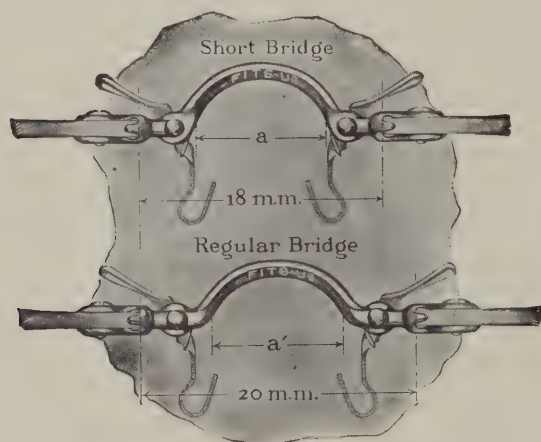
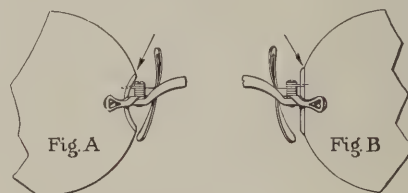
We are enthusiastic about shorter "P. D.'s." We are as much in favor of shortening for bridges as for grandmother's pies. But *when you attempt to sacrifice strength* for the sake of more shortening we'd rather go without our pie. You know what that means in New England!

Our staunch (patented) short Bridge is now two years old and growing into an ever-widening circle of friends. It has many generations of usefulness ahead of it yet. The hard tests of usage have proved that!

Now, it has been suggested that we further shorten the P. D. by cutting out part of the bridge close up to the Ovallex Spring. This we regard as a distinct

Ovallex is so obviously superior in power, action and design.

Rather than sacrifice strength for pupillary distance we advise no radical changes from the No. 03101 short Bridge Fits-U at this time..



Comparative distance in regular and short bridge (patented) having same base measurement.

If shorter pupillary distance is still desired, we recommend two strength-saving alternatives—in the illustrations shown here—by which it may be very easily secured. Those of you who have grinding outfits can use these methods sometimes to advantage. Simply grind a flat place on the edge of the lens where the strap is to be fitted, and straighten the strap until it fits snugly. Then bore a hole for the screw at the proper distance in from the edge. This not only enables you to use larger lenses than could otherwise be done, but it also makes them unusually secure, since the flat strap prevents any rocking of the lenses up and down.

If you have a Perfection Bifocal grinder, you can go still further and grind the lens until the strap fits in with a convex curve. This accomplishes the same result and gives a shorter P. D. than may be obtained by the other method.

In conclusion, bear in mind this indisputable fact. That the AOCo Short Bridge Fits-U No. 03101 with its powerful Ovallex Spring cannot be simplified without sacrificing strength in metal and spring. Let none mislead you! We can speak for it as the last word in Short Bridge improvement to date.

loss in *strength* and therefore unfeasible. The strength lost would not only be in the structure of metal, but in the spring, for it would involve a return to the old style coil spring over which our

"But if your store presents the purely "Quality" appeal from door knob to chandeliers, you will not only better satisfy your customer but you will make better profits and achieve for yourself the reputation of conducting a store in which everything is done up in the best possible style.

"Now that's just exactly what I have found in my business and as you look around you will notice the results and wisdom of it."

"Do you mean to say that you have no cheap goods in your store?" asked the salesman.

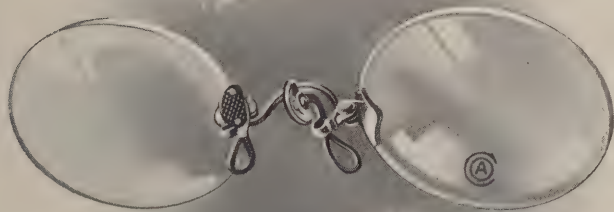
"Of course I carry the so-called cheaper goods, but I have so constantly urged the purchase of better goods—and by skilful argument and display—that I think now my customers are impressed with this fact. I tell you the quality appeal strikes at the very roots of human nature. It doesn't make any difference whether they stand before a king or a piece of jewelry "Quality" spellbinds them just the same. And all hot air to the contrary, my con-

viction on this point is so certain and ingrained that I am going to continue to build up my hopes on "Quality" lines."

"Say, friend, that's the first time I've been able to sit here and smoke my cigar and enjoy the growlings of a dog-cart lunch and listen to you do all the talking. It's a sure sign you're on the upgrade! I suppose the A. O. Company is behind you?"

"Yes, but purely in a coöperative sense. It is not all give on their part nor is it all take on mine. I have found it distinctly worth while to cultivate this relationship, and where I see that things may be bettered, I do not hesitate to suggest it to them, and there's the whole sum and substance of my business philosophy!"

"Opto-metrist, the House of Quality! Built on solid gold American Optical lines," he repeated to himself as he started out. "Sounds pretty good to me!"



Opportunity!

In Screwless Mountings

OPPORTUNITY is not a knocker. It comes only to the man who recognizes it.

YOUR opportunity—if you will but recognize it—lies before you in Screwless Mountings.

THE Screwless form has long been the inevitable in mountings. For years the trade was skeptical and regarded it as an impractical fad.

NOW the age of haphazard experiment has passed. The trade is receptive to the great flood of numberless screwless mountings bidding for its favor, because it is the most radical and important invention in years in the mountings field.

THE first man to recognize Opportunity in Screwless Mountings will reap a Golden Harvest. He will be the wise man of his locality and optical generation.

AND when he comes to eliminate the large variety of mountings held up by manufacturers for his inspection, whose mountings, we ask, will bring as perfect a guarantee of manufacture, profits and advertising assistance as the AOCo's (patented) Screwless Mountings?

DON'T lose Your Opportunity by Indecision. AOCo Screwless Mountings, plus our earnest coöperation, will bear you over the high road to success. Join the AOCo pioneer expedition. It starts this month!

Here's a big one from New Jersey who's joined: "Before you put a screwless mounting out there were something like three or four on the market. I waited! I waited until the AOCo mounting came out and then put in a stock of them."—F. W. POOLE.

No Extra Charge Over Regular Mountings

M-5 OPTICIAN'S BENCH

¶Is offered to the optician who requires a practical work bench especially designed for optical uses, of such a height that one can work comfortably in a sitting position, and be provided with ample drawer space for tools, etc. right at hand.

New and Compact—The Pioneer of Its Kind



No. M5

PRICE \$30, Net

F. O. B. Southbridge, Mass.

LENGTH—3 ft. 3½ in.

WIDTH—2 ft. 2 in.

HEIGHT FROM FLOOR—3 ft. 3 in.

NET WEIGHT—144 lbs.

GROSS WEIGHT, Packed, 311 lbs.

¶Plenty of space is provided on top for a vise, anvil, soldering or cementing apparatus, Colmascope and neutralizing lenses.

¶One of the features of this bench is the wide drawer, designed to hold files, pliers, screw drivers, gauges, etc. Just beneath this is a substantial lap drawer, which can be left out when working, serving as a "catch" for filings, small screws, or other articles which otherwise would be broken or lost.

¶On the right of the workman are four convenient drawers—three shallow and one deep—for keeping supplies, tools, and material.

¶These self-advertising features should persuade you to order now from your jobber. We are ready to serve you.

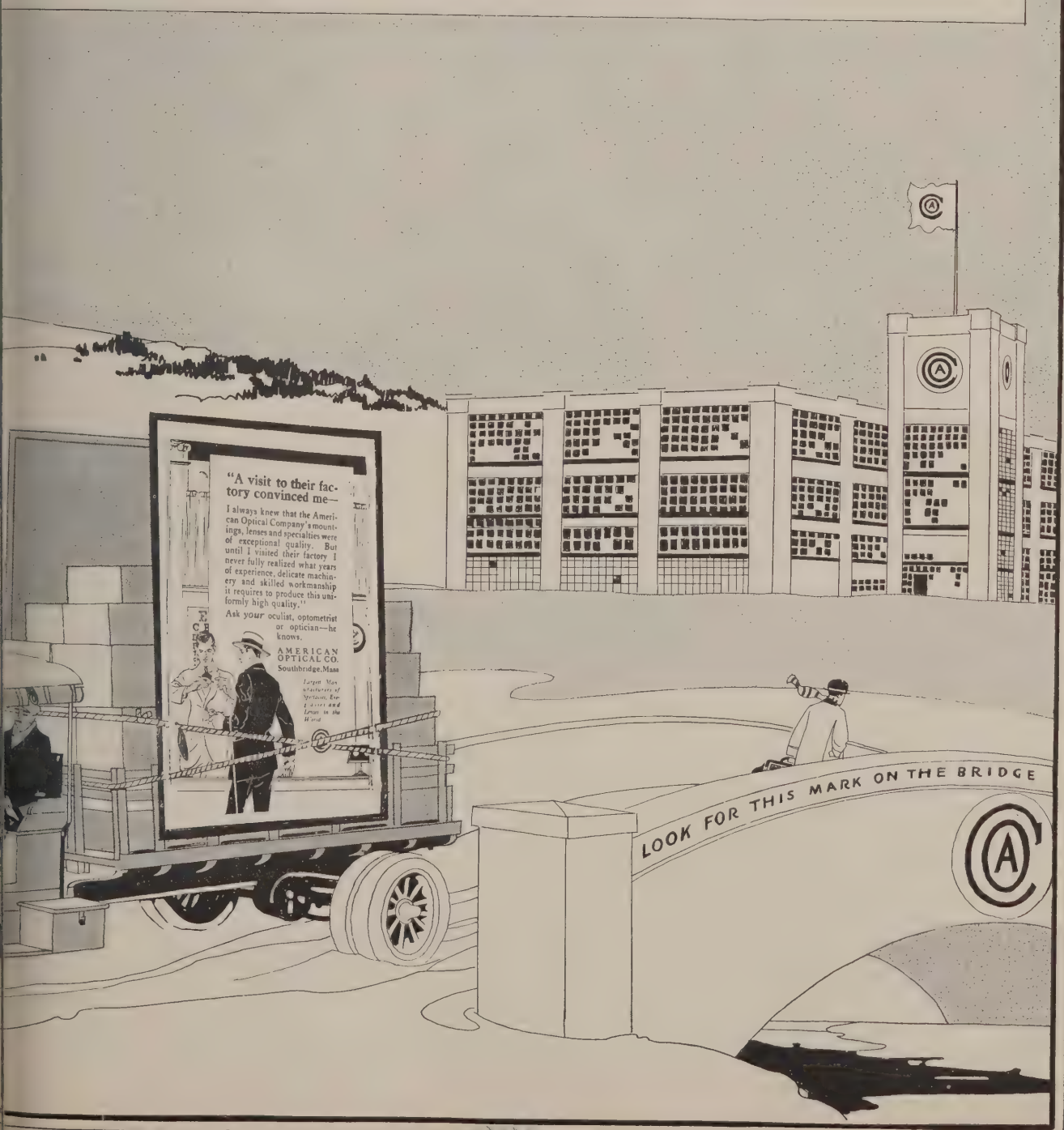
Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol 3

March, 1915

No. XII



Noviol *The New American Colored Glass*

AFTER years of unsuccessful attempts by American manufacturers to produce a scientific colored glass the Coming Glass Works has produced NOVIOL.

We immediately recognized this as an epoch making improvement and secured rights on this glass, realizing its immense value to the trade.

Unique Among Colored Glasses

We now take pleasure in introducing Noviol to you as the Pioneer of scientific colored glasses in this country. It is a product of American brains and initiative in the face of great obstacles.

Changes Ultra-Violet to Light

Noviol possesses a quality that no other commercial colored glass extant presents. It not only cuts out the harmful ultra-violet rays entirely, but changes them to light, making the visible spectrum wonderfully clearer, *increasing vision*.

This can be said of no other glasses, which merely change the ultra-violet rays to heat rays. It will be the shooting and auto glass of the future.

Enhances Vision

Compared with others this American glass is clear and sparkling like running water. It has no muddy, unsightly color, such as prevents the transmission of the visible spectrum through other lenses. Noviol lets through the visible colors more brilliantly.

It absorbs a greater percentage of the harmful heat rays than any of the others now on the market.

*The Shooting and Automobile Glass
of the Future*

With these predominant features and our unexcelled mechanical and advertising facilities you should not fail to put Noviol in your stock of colored glasses. On another page of this issue is a fuller description of this native American made product. We are now ready to fill all orders immediately.

"Because It's the Best You Can Command the Best Prices."

Ampico



Colored and Tinted Glasses

Extracts from Lecture by H. T. Reeve, Metallurgist and Physicist of the American Optical Company

THE wearing of glasses, especially colored glasses, until comparatively recent years, was a privilege left open with a certain amount of contempt to the scientist. However, people gradually became educated to the fact that somehow it really did improve their sight to wear glasses with a focus; finally even children had to wear glasses to correct the errors of their eyes. We owe it largely to the profession that this is so and that under their constant demand a vast and increasing business has grown up to supply the needs of innumerable patients.

Why Wear Colored Glasses?

Now, the business of prescribing glasses for the eyes belongs to the oculist and optometrist, and his demands for better and more perfect glasses have increased and are becoming more insistent every day, and this is rightly so, for what is more important to our physical well being than perfect sight? Hitherto we have in a general way used colored glasses without any real scientific reason as to why we wore them. What benefits did we derive from them? And why were they sometimes so restful to look through? It was certainly conceded that certain colors gave great relief to "sore eyes," and it is just the real meaning of and remedy for so-called "sore eyes" that I want to drive home to you. It can and will be shown what causes

some "sore eyes" and also the best remedies to use in these new glasses.

Colored Glasses Chosen By Sentiment.

First, however, we will briefly review the history of colored glass; several centuries ago, green glasses were worn. Why were they worn? Is it not a fact that the green fields and trees are pleasant and restful to look upon? Therefore it must have been argued that green glasses would be equally good—so they were. However, things come and go by fashion and glasses were no exception to the rule.

Blue ones—the same color as the sky—were pretty, easy to make, so they were worn; but they evidently had a brief popularity for they were not restful.

Next came gray, or neutral or smoke colored glasses, similar to the grey clouds which are so effective in reducing the light from the sun. These have had a great popularity and are still worn to a considerable extent.

Thus far we had three glasses, green was generally restful, blue reduced the glare and heat from furnaces and was generally used for that purpose, and smoke

allowed people to see natural colors unaltered and reduced the glare from too strong a light. Also red glass was used in photographic dark rooms to



H. T. REEVE

Born 1886. Educated at the University of Birmingham, England. Specialized in metallurgy and electro-chemistry. Took the Associateship of the Institute of Chemistry of Great Britain and Ireland (A. I. C.). In 1909 joined the Staff of the National Physical Laboratory, England; three years doing analytical and research work. Joined the Scientific Department of the AOC in 1912 and now the chief Metallurgist and Physicist. Elected to the Fellowship of the Institute of Chemistry in 1912 (F. I. C.).



prevent the action of light on the plates. The next step forward was taken when it was noticed that all windows exposed to a north light gradually turned an amethyst tint. Hence glasses were made in different shades of amethyst and strongly recommended for all. This led up to an interesting question. What caused this window glass to change its color? Was it light in general or was it certain portions of light? At this point it must be explained what is meant by light in general and colored light in particular.

What Is Light?

Light is a form of motion originating from a source of disturbance and requiring a medium which we vaguely call the aether to carry that motion. It carries this motion in a succession of waves. If you imagine a still pond and drop a pebble on it you get the well-known ripples. The distance from the crest of one ripple to the crest of another is called a wave length. These waves have many similarities to light waves. Visible light is propagated from the sun as a centre of disturbance through the aether in a succession of minute waves ranging in wave lengths from 33 millionths of an inch to 15 millionths of an inch. In other words the colors of light are like the tones of sound—due to difference in wave lengths. It must not be forgotten that by wave lengths we mean the distance from the crest of one wave to the crest of the next.

Analysis of Light Shows Colors: The Spectrum.

Having now seen what light is, let us go on a step further and analyze light and see if it is not capable of being shown to be a mixture. This, of course, is done naturally when the sun shines through rain; it is then refracted up into the sky and analyzed or sorted out into the colors that it is composed of. This is due to the fact that the different wave lengths with their varying frequency are all bent at different angles and hence sorted out.

Newton was the first to reproduce this natural phenomenon artificially. In his classic experiments he allowed sunlight to stream through a narrow hole in a shutter of a dark room and thence through a glass prism producing on a screen the well-known colors which we now call a spectrum. His method of demonstrating a spectrum has since been improved upon greatly by using an artificial source of light and a narrow slit instead of a round hole,

and the prism he used was probably a very poor surface while our prisms now, with our splendid facilities for grinding and polishing are made with a fine surface and therefore give a very beautiful spectrum.

Wave Lengths Determine Color Sensation.

We have, therefore, so to speak, analyzed the light and shown that it is not a simple substance but a mixture of all these different wave lengths or colors. The so-called red waves are long ones, that is long, comparatively speaking, being about 33 millionths of an

inch; the violet are the shortest, being around 15 millionths of an inch, while the other colors, yellow, green and blue are intermediate. These different wave lengths have the power of producing different sensations in the eye and these sensations are conveyed by the nerves to the brain.

When we say then that an object is colored, we merely mean that it is absorbing certain wave lengths and reflecting others. For instance a piece of red cloth is absorbing the violet, blue and green and perhaps some of the yellow and reflecting back through the eye the red and orange waves.

Spectrum Analysis—Visible and Invisible Rays.

Now in this spectrum, besides the visible light there is invisible light, but you may argue that if the light is not visible then it is not light at all, but it is light in the sense that it can be reflected and refracted and polarized and also it can be seen, so to speak, with other eyes; that is, a photographic plate can see it and it will act more strongly on a photographic plate than the light that we can see. Further than that, we know the effect of certain rays, although we cannot see them; for instance, what is heat? We feel the effect of heat on our body although we cannot see the waves that are producing the heat. There are heat waves in that spectrum although you cannot see them or feel them because they are so minute and few, but if you hold a very, very delicate thermometer capable of detecting minute quantities of heat, that thermometer is affected and it has been proved that in this way, these heat waves stretch out some considerable distance beyond the red end of the spectrum. The other name of these invisible heat rays is infra-red waves. Now to complete our analysis of the light,

SPECTRUM				
Invisible	Visible			Invisible
Ultra-Violet	Violet	Blue	Green	Infra-Red
(Actinic)				(Heat)
Rays	Yellow	Red		Rays
(Harmful)	Rays			(Harmful)



let us see what there is at the violet end. There are means of showing visibly the so-called ultra-violet waves and the other names of these are chemical rays because they act on photographic plates.

Fluorescence

There are many chemical substances which, when these waves fall upon them, have the property of shining, or fluorescing as it is called, and notable amongst these chemical substances is quinine—and better still anthracene. A piece of cardboard painted over with anthracene and put next to the violet end shines with a greenish light. You are not thereby seeing the ultra-violet waves but you are seeing their effect on the anthracene. In short, the anthracene is transforming these very short ultra-violet rays into longer waves that are capable of acting on the nerves of the eye.

Invisible (Infra-Red and Ultra-Violet) Rays; and the Visible Rays.

We have now completely analyzed our light into the following: heat rays which are invisible, red rays, yellow, green, blue, violet, and ultra-violet.

Ultra-Violet Turned Windows Amethyst.

Now let us turn back to our window pane, which turned amethyst and see which of these kinds of light was responsible for the change in the color of the window. We find that it was the ultra-violet waves that caused the change.

A great deal of work has been done with these ultra-violet waves and their properties have now been studied very thoroughly. A piece of glass from a moving picture lantern which has been exposed to a light that was rich in ultra-violet rays shows that this glass has turned a light amber color. Different kinds of glass may act in different ways with this ultra-violet light; some turn amethyst, while others turn amber according to the chemical composition of the glass. They also have a bleaching and discoloring effect on various organic substances, also they will destroy bacteria and thereby sterilize food; finally their effect on the human organism has been studied and this is the chief matter that interests us.

Snow Blindness—Electric Ophthalmia.

We know that people travelling around on snow fields exposed to bright light suffer from so-called snow blindness. Others suffer from what is called electric ophthalmia. Ophthalmia in general is an irritation of the mucous membranes of the eye. If it may be caused by bright electric lights, such as often happens to people who are constantly handling them, it is called electric ophthalmia, and this is the real scientific name for the majority of sore eye troubles today.

Experiments On Animals and Man.

Now by experiments on animals and the human eyes, too, it has been proved beyond a doubt that this electric ophthalmia is entirely due to the ultra-violet rays given off by electric light. Another thing that has been proved is that with the increasing use of electric light and the higher and higher power of the light this electric ophthalmia and subsequent operations for cataracts have been on the increase. Hence the demands for a means of counteracting the evils caused by the increasing use

of the electric light. We see now the strong need for some kind of glass for counteracting these rays and now, let us follow the advance of colored glass and see what steps have been taken to meet the needs.



*Crookes
Light Shade*

*Ordinary
White Glass*

*Crookes
Dark Shade*

When Science Took Hold— Results.

In 1887, Dr. Fieuzal, a German Scientist, produced the well-known glass which bears his name. This is a greenish yellow glass designed to cut down the glare or excessive intensity of light, as well as some of the ultra-violet rays; also somebody proposed that amber was a good color for this purpose and performed pretty well the same deeds as the Fieuzal. The Germans went still more and more into this subject and produced still another glass than Fieuzal called Euphos and this glass provided a means of absolutely removing all the ultra-violet rays and only cutting down the illumination to a small extent. Now the trouble with these glasses was that many people considered them unsightly, so that the demand arose for a glass that would eliminate the



ultra-violet rays as the Fieuzal and Euphos and at the same time be fairly decent looking to wear. In 1909 the Cataract Committee of the Royal Society of London, England, invited Sir William Crookes to investigate the large and increasing number of cases of cataracts among glass smelters. Sir William agreed to take up the subject and very thoroughly indeed investigated all the causes and effects and worked four years endeavoring to produce the right remedies.

Sir William Crookes Glass.

First of all he studied what kind of rays were given off from glass smelting furnaces and he found the trouble to be due to heat rays. You have all probably heard how the old Arabs when they visited the tomb of Mahomet swore that they would never look at anything else and then they heated up bricks as much as they could and then held their eyes closely in front of them to be led away blind.

Crookes and X-Rays.

Sir William Crookes, therefore, decided to try and find a glass that would not stop off too much light, but would cut off the injurious heat rays. However, being interested in this subject he decided to enlarge this research and include a glass if possible that would cut out ultra-violet rays as well. For the benefit of those not familiar with Sir William Crookes, it should be mentioned that he has done a lot of work in the so-called

Crookes tube. This tube is a vacuum tube through which an electric current is passed producing certain kinds of rays. These rays are known as electric rays and the knowledge of their properties afterwards enabled Roentgen to discover the so-called Roentgen rays, or X-Rays, which are being turned to so great a benefit to mankind in general. Sir William Crookes, therefore, may be looked upon as predecessor of the discoverer of X-Rays and his knowledge of rays in general made him an ideal man to take up this work.

The properties he desired were:

1. That the glass should exclude as much as possible the ultra-violet rays.
2. To exclude as much as possible the heat rays.
3. To interfere with the visible portion of the spectrum as little as possible.

If any one glass contained all of these desirable properties it would be ideal, but unfortunately in spite of all the work that has been done on this subject no glass has yet been made which conforms to these specifications. Sir William Crookes first of all made up a clear and colorless glass which served as a basis and then incorporated with this clear basis various forms of metallic oxide, both common and rare. He then tested out the product in a scientific

way and measured their properties very accurately and in this way he was enabled to discover that certain metals were worth experimenting with while others held out but little hope. In this way he reduced the number of metals and oxides to incorporate with the clear basis to about 12 and of course, the number of combinations that one could obtain with these 12 is vast. Altogether Sir William Crookes made up over 300 different mixtures and tested out all the optical properties of these glasses very thoroughly. You can see at once the enormous amount of work entailed and it is no wonder that such a

research took four years to complete. Out of these 300 different mixtures came Crookes glass in two shades whose great properties are already too well-known to need further comment.

Distinction Between Colored and Tinted Glasses.

Now it is essential to draw a distinction between colored glasses and tinted glasses. A *tinted* glass is one which has just a faint perceptible color, but not enough to alter the colors of objects when looking through the glass. A *colored* glass, on the other hand, has a more or less pronounced color and the effect



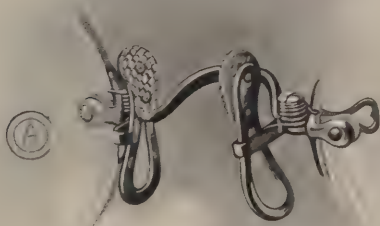


California Sends Its Most Popular Idol Eastward

TIPTOE softly over here and see what we've got! See its little sharky self—a real denizen from the Pacific's watery waters.

Now a man whom we'll call Jones—because that's his name—got real chummy at one of the California jumping-off places with a school of these friendly natators. He discovered they carried grips, even after death, like the proverbial bull dog. Upon rising from his bed, thereafter, he decided to hang a grip like that on somebody else's nose. So he picked his recruits from this particular A. Sharkskin Grip No. 1 school and being a New Yorker he chose them particularly for their nasal resemblance to some of the folks back home. And they justified his expectations. Biologists tell us this about noses: that we were originally fish and crawled on to land in Palestine. The whole body changed from fins to clippers, clippers to hands, etc., but the nose survived and migrated from Palestine to New York.

The Commodore of the fleet—you can tell him by the ACoCo on his fin—thought Jones' idea was great; notice him smiling. He vowed then and there he'd hang on to any nose longer than the folks East could hang on to a dollar. So the Commodore proved he could. To date he's ahead. They say no matter how you try—and he doesn't hurt you—you can't even shake him off after death.



Of course this ensures the mounting a long life, far beyond the normal duration of most fittings.

Well then, we got wind of it! California is a little advertiser—it seldom sleeps, but even when it does it keeps on registering its subconscious self in favor of California. We know all about him—how he was

tamed and trained to wear the ACoCo monogram, was mounted with a strong, injury-proof guard designed for a solid comfort grip, and so on. They told us his sharkskin had been specially prepared for noses in the East, middle West, and South, attached to the bearing pads. Well, all the Pacific coast people flocked in to buy. They knew it was just what the Commodore'd promised Jones—the



strongest grip with the lightest spring pressure on the market, atop a firm and comfortable guard.

Now it's up to the rest of the trade to arrive in as dignified a manner as possible at this belated hour, for their own benefit. Don't crowd.

Have you ever tried this mounting? Have you noted the grip of the sharkskin pads without pinch? How minute the teeth are constructed so as to run against the pull of the guards and yet not dig into the nose? If you haven't words cannot make you feel the indescribable comfort that these nevercome-off pads bring to the wearer.

The sharkskin grain used is rough but only the fine grain is selected, taken from the belly side of the fish where the skin teeth are very small. By special processes of curing and manufacturing the bite is removed; the teeth and the skin are made available for a lifetime of hard and fast wear without the slightest discomfort.

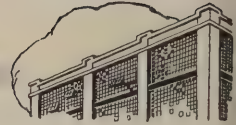
Sharkgrip mountings with sharkskin pads are sold at \$1.50 increase over our regular Fits-U's. They are well worth it, too! The saving in a once-on-always-on mounting, and in annoyance far exceeds their nominal value. Why the Sharkskin Grip mounting has not been called to your customer's attention long before this is one of the mysteries of the day! One trial would indicate that to you—one inspection of it. There is nothing—positively nothing—even as good, or better, on the market.

Coast dealers are planning to carry the Panama-Pacific Exposition by storm with it. Several of the largest optical houses in the country have adopted it as their regular mounting. Where are you?

Sharkgrip Mounting, with sharkskin pads:—

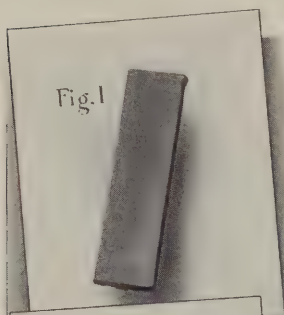
1/10 12K Gold filled.....	per doz. \$8.50
10K Gold.....	18.00

Photo showing the surface of Sharkskin prepared for eyeglass guards



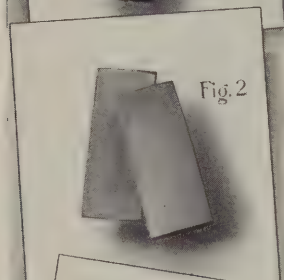
What is Your Gold Filled Position?

OUR High Quality 1/10 12K, 1/10 14K Flag Lines in the Making.

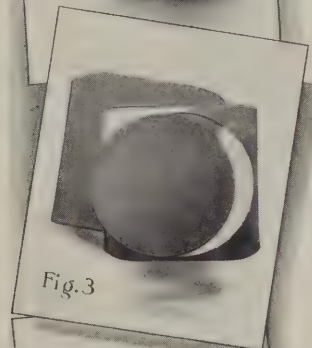


Start

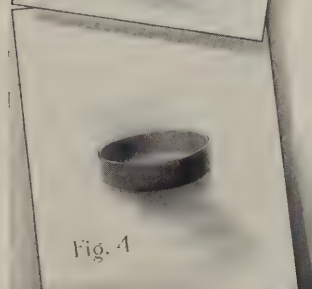
\$1400
Gold
Ingot



Cut in
Two



Rolled
and
Cut



Start of
Cupping

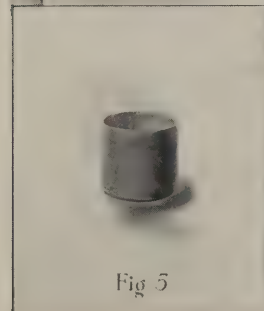


Fig. 5

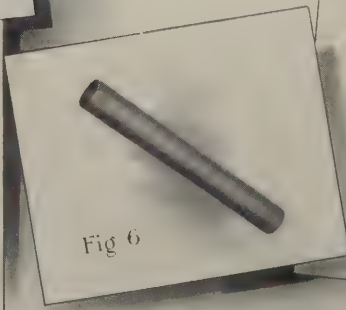


Fig. 6

End of Cupping;
Shell without Core

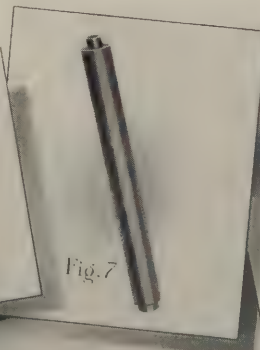


Fig. 7

Shell with Core

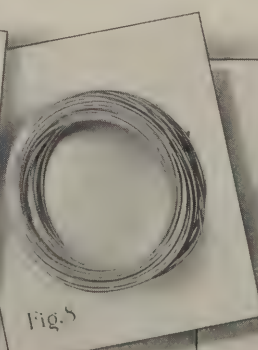


Fig. 8

Pulled Out to Length



Fig. 9

Finish
Four Miles of Wire

ARE you a "quality" man? How many times have you not said to friends "I like the Stetson hat or shoe. I have to pay more for it but I'm always sure that I'm getting the best."

We do not resurrect a theoretical situation here to support our argument. For you know the above experience is part of your own. It is part of your intense desire for the satisfaction, happiness and relief that only the *best* goods will give.

You can readily appreciate therefore what it means to you when we set up a high quality standard on our Flag Lines and put forth every effort to maintain it.

We actively oppose the "just as good" product for the same reason that you pass it by in buying for your personal needs. We oppose it not because it means less a change for us, but because *we* know and *you* know that the slightest variation from a high quality standard means sacrifice in looks, wear and construction. People may tell you that it doesn't but you know better from experience. So do we!

We have here a permanent line of gold-filled goods of superlative quality and at No Higher price than ordinary kinds, combining the enduring qualities of stiffness, color, finish and superiority in construction and design.

In actual assay the 12K and 14K gold-filled Flag Lines measure up to better than 1/10 12K or 1/10 14K. The Temples and

Bridges, in anticipation of heavy wear, are reinforced with 1/8 12K, while Eyewires, Ends, and Straps are finished in 1/10 12K or 1/10 14K. The entire frame therefore assays better than 1/10 12K or 1/10 14K. Other incidental comfort and satisfaction giving features lie in the patented structural advantages of the AOCO Flag Lines. For instance, we have the Perfix, or pear tip, riding and cable temples, produced on automatic machinery demanded by such small and complicated operations. Then there are the beautiful comfort cables with new smooth tips, positively without peers in the world of temples. Another innovation, used hitherto only on solid Gold Goods, is the new small rounded back end pieces. Then too, our "T foot" Bridge, is an added feature, considered by experts to be the strongest and most enduring in adjustment made.

There is no secret about our Quality appeal. It represents the Quality of Brains in superlative workmanship. People have to pay higher for it as a result. But they want it the more for that very reason. They *KNOW* it is the best that can be made. It conforms to their ideals.

In our 1/10 12K and 1/10 14K we shall allow no deviation from the absolute High Quality standard we have set for it.

The current saying that people want the best nowadays is no mere dream.



On the Trail of Crookes Glass. Mysterious W. J. Burns After the Sales Department!

"What about this Crookes Glass?" writes in W. J. Burns from Philadelphia.

In came the whole sales department on the run to see us. "Sh!! What-t'ell-about-W.-J.-Burns—who-is-he—the-great-detective? Will it get us in dutch with the poe-leese," etc., etc. ad infinitum.

"Stop!" said our skipper with the voice and gesture of traffic cops at bay. "Stop! Cease this untimely and hysterical outburst. We must keep cool!" He knew it was March.

By this time, in ways only known to the outer office force of a Southbridge factory, the news had spread that Burns was after Crookes Glass, and had inquired what the company knew about it!

"Amos, close the door on the outside; let none enter!" ordered the skipper. "Sit down sales dept.!" All faces were drawn and lined with portent—much portent! "First off, what did Burns want *specifically*?" coughed the ad manager, visibly affected over the last word.

"He wrote as if he wanted to lay his hands on some Crookes Glass. Wanted to know who Crookes was, what use the glass was in blanks, whether these blanks were 6 in cylinder or not, and a whole lot of — (deleted) fool questions!"

"Sounds pretty serious" butts in the skipper of the advertising crew. "Did he write in invisible ultra-violet ink?"

"No! wrote down right down in black and white—straight to the point—wanted no evasion." Our sales dept. scratched his perplexed head and a fine flurry of white flakes moving shoulderward reminded us it was still winter.

The skipper paused, conferred in whispered seriousness with his right hand man—Morton—and read the correspondence over for the second time. Meantime ears were flapping—the outer office had put in its heavy work! Said they to others "we hear" etc. etc., "that the bosses are (don't tell a soul about it) to be sent up for ten years, have appealed to the Supreme Court and bid the company good-by. Isn't it a shame? But don't let on I said so!"

Our skipper was an ad man! He had an idea! Here it is! "What did you answer Burns, Eat-on?" asked he.

"Why, I told him Crookes Glass did good not harm; sez I, 'Sir William Crookes is an English Knight, a great scientist; the only use of these

blanks is to shoot the living life out of ultra-violet and heat rays.' Told him he should have known the AOCo wouldn't stand behind any Crookes unless he was an AA No. 1 man. Explained how it shielded the eyes from invisible rays, aided clearer vision and still was as pure as ordinary optical glass all in one. Remarked it was in-tinted for humanity and not for any particular class. What more could I have said, sir?"

"Nothing! Very good Watson! Mr. Burns is one of our valued dealer friends—you are more of a detective than he ever thought of being! Meeting's adjourned."

The congregation all filed out. We are still on the job, else this tale would never have been written for posterity.*

*W. J. Burns is a Philadelphia dealer.

Now Clearing Rough Torics

Following our practice of clearing the surfaces of Kryptok Blanks which enabled us to so greatly improve their quality, we have decided to extend the practice to our Rough Torics. While our Rough Torics have always had an unsurpassed reputation for quality we have realized the difficulty of detecting a minute imperfection on a Toric surface, where the opposite side of the lens was unfinished. This new departure enables us to examine the surface of a Rough Toric lens with the same surety of detecting and rejecting imperfect surfaces as on finished lenses. Orders for Rough Torics are now being filled with these improved lenses.

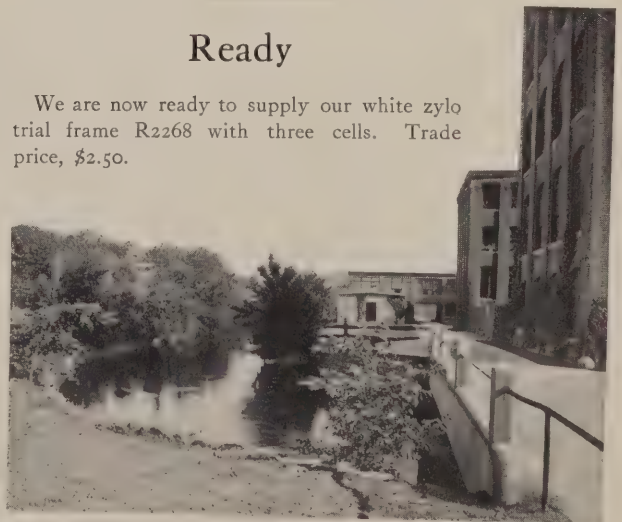
Forwarded To The Wrong Address Perhaps!

DEAR SIRs:—Please do not send any more matter to Mr. as he passed away last October.

Signed Mrs.

Ready

We are now ready to supply our white zylo trial frame R2268 with three cells. Trade price, \$2.50.



HAVE YOU WAITED

We Timed This to Meet the S
Priced Protection Glasses. We
now lead in putting quality, con



Overland No. 8195 C.

LAST month we asked you to wait for the best line of popular-priced colored glasses on the market. Here it is, in five distinct designs, each adapted to a certain protection usage or a particular taste. An especial feature in all designs is the choice of three colors—amber, Fieuzal and smoke at present.

Examine first this Overland Tourist design, a protector, in frames and rimless spectacles, against the ultra-violet and heat rays. Each spectacle carries with it the beautiful tan or wine colored case shown here, that tucks itself away in the pocket like magic.

Trade Price
per Gross

8145 C, Frames gold plated, drop eye, cable, Mi Coq. \$40.00
8195 C, rimless spectacles, gold plated, drop eye, cable,
Mi Coq., 42.00



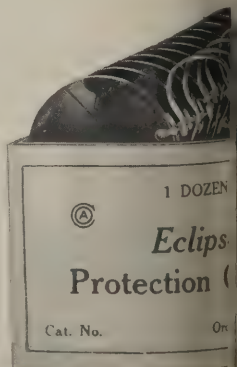
Eclipse—White Metal, 8023.G.P., 8123

THE Eclipse line is another design in smoke, Fieuzal and amber that affords protection more particularly against glare from sun and sea, dust and grit.

We have constructed this line in three styles of the best gold-plated and white metal quality stock possible to put into a moderate-priced colored glass—1. Eyeglasses, 2. Frames of White Metal and 3. Rimless spectacle mountings. The spectacles have the cable temples in both white metal and gold-plated, also regular temples if desired.

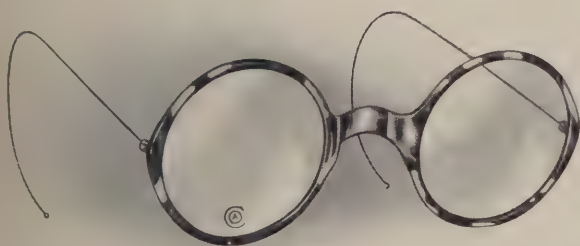
For display purposes we have packed these in ornate boxes designed by men who have studied for years the art of attracting the public.

For a very nominal cost of 75 cents per dozen cards you can get the striking orange and white window card shown in the accompanying illustration, also small cards with retail prices (25c, 35c, 50c) furnished with each dozen free. We call particularly to your attention the fact that there is no line of its kind on the market anywhere today carrying such effective display matter. We are not trying to force it on you. We believe you will see the intrinsic merits of the entire line without words from us.



D for This Colored Set Line ?

onal Demand for a Line of Moderate
e led in high quality tinted glasses. We
uction and variety into this popular line



Roadster—No. 8050

ECLIPSE PROTECTION GLASSES

Put out in 3 different styles.

1. Eyeglasses.

		Per Gross
8023	White Metal, 2" Hoop spring, Sanitary XC1 Guard	40 mm \$21.00
8033	Mi Coq.	45 mm 21.75
8123	The same in gold plated	40 mm 21.00
8133		45 mm 21.75

Rimless Spectacles.

Cat. No. 8195 gold plated, drop eye, cable.
In 51 L6 tan colored cases, black lettered. Mi Coq. amber \$42.00

2. Frames. White Metal.

8046	48.5 mm lenses, SS Bridge 47 style	18.25
8046C	48.5 mm lenses, SS Bridge 47 Cable	48½ mm 21.35
8146	Same as above but gold plated	48½ mm 18.25
8146C	Cable	21.35

3. Rimless Spectacle Mountings.

8090	White Metal	48½ mm { 27.00
8090C	Cable	{ 30.00
8190	Gold plated	48½ mm { 27.00
8190C	Cable	{ 30.00

ROADSTER. The aristocrat of our entire colored set is the Roadster design. This design is provided in spectacle style only with zylonite fronts. The temples are gold plated comfort cable, fitting snugly over the ears without friction. Each pair of spectacles is encased in a luxurious royal purple box with beautiful gold-lettered and designed cover shown in the illustration.



Eclipse Counter Card
75¢ Doz.
Cards

Roadster:—

Zylonite front with 42 mm eyes inset bridge, gold-plated cable temple Per doz. \$5.25

JAPTOL is the name of our superior black finished metal spectacle design, set with amber, Fieuzal or smoke lenses. Each frame is in an individual box. It is one of the handsomest designs in the entire set, is endowed with everlasting wearing qualities and cannot break easily.

Japtol I—Rest Glasses.

Per Gross

8236	Japtol Frames	SS bridge 47 bend 45mm amber	\$42.00
8236C	"	Cable	45.00
8246	Japtol Frames	SS bridge 47 bend 48½ mm	45.00
8246C	"	Cable	48.00

(See bottom of next page.)



Individual Roadster Case



Four Fits-U Lens Cleaners—We Chase Dirt

Call 'em Lens Wipers, Eyeglass Cleaners or what you want to, at last we have them! Our Fits-U Cleaners are as pink as an infant's complexion, effective as the old hot water bag and serviceable as the ancient and honorable family cook. They are strictly careful never to scratch lenses, refuse to associate dirt with glasses



We are constantly adding new and attractive styles in optical goods and will be pleased to have you call in and inspect them at all times.

WILLIAM H. FREEMAN, OPTICIAN
1443 SO. MAIN STREET
JACKSON, MICH

No. 101
FITS-U LENS CLEANER

to a Society Brand sport. But Fits-U's and lenses are natural affinities. They take to each other like a couple of long separated Frenchmen. Now Fits-U Lens Cleaners come in this one color, are of the regulation size used generally by the trade and, as indicated by the illustrations, provide

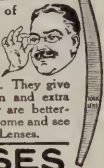


If at any time your glasses need adjusting bring them in and we will be pleased to do it free of charge.

EDWARD H. THOMAS
OPTOMETRIST
1828 WILLIAMS ST.
STAMFORD, CONN

No. 102
FITS-U LENS CLEANER

TORIC ©



There's a lot of difference between Toric Lenses and Flat Lenses besides their slight extra cost. They give you extra vision and extra comfort. They are better-looking, too. Come and see us about Toric Lenses.

LENSES

FREDERICK JAMISON
OPTOMETRIST
48 JACKSON AVENUE
WATERLOO, IOWA

No. 100
FITS-U LENS CLEANER

and in general are the first aids to optically inclined people. They are as necessary to the wearer of glasses as a handkerchief is to the nose on which it perches. The handkerchief's all right in its place, but as a lens cleaner it is woefully inapropos—it scratches the lens surface, and is as popular to a lens as a polecat is

GEORGE H. GOULD, OPTOMETRIST
1438 WASHINGTON PLACE
BALTIMORE, MD.

No. 104
FITS-U LENS CLEANER

four changes of copy including your own imprints. Order by above numbers 100, 101, 102 or 104. They come for \$7.50 per thousand. Write in to your jobber before these hotcakes go. A change of copy provided. Your name printed on this cleaner flashes before the victim's face at each wipe.

COLORED SET—Continued

SHELLOID—To cultivate that class of trade that wants protection, distinctive style and a moderate price combined in one pair of glasses, we originated and constructed a third design called Shelloid. This design has a Zylo rim on the eyeglasses which gives the line tremendous distinction and should be one of your greatest sellers. It includes the strength, constructive features and intrinsic merits of the Overland and Eclipse gold plated and white metal lines, while providing the Zylo rims.

Communicate quickly with your jobber.

				Per Gross
8024	White metal eyeglasses 2" Hoop spg.	40	mm	\$33.00
8034	Sanitary XCI Guards			
	Mi Coq.	45	mm	34.50
8124	The same as above except gold plated	40	mm	33.00
8134		45	mm	34.50
8084	White metal SS Bridge 47 style—	45	mm	40.50
8094		48.5	mm	45.00
8084C	The same with cable			43.50
8094C				48.00
8184	Gold plated SS bridge 47 style—	45	mm	40.50
8194		48½	mm	45.00
8184C				43.50
8194C	The same but with cable temple			48.00



Amoptico

Reg. in U. S. Pat. Off.

Vol. III March, 1915 No. 12

Published Monthly by
American Optical Company
1833-1915

Channing M. Wells President Albert B. Wells Treasurer

J. Cheney Wells
Vice-President and Secretary

General Offices and Works

Southbridge, Massachusetts, U. S. A.



New York . . . 15 Maiden Lane
Chicago . . . 5 S. Wabash Avenue
San Francisco . . . 140 Geary Street

European Agency,
American Optical Company, Limited
39 Hatton Garden, London, E C

Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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What Hit Our Superintendent!

OUR Division Superintendent at Lensdale, H. W. Hill, was approached sometime ago by one of those fellows you meet every few weeks. This one was a personal friend and came along beaming all over. Seizes he to Harry "I've got the *best* glasses in the world; bought them at the ten-cent store; how much do you think I paid for them?" Harry's a wizard at lens figures and came right back sharply "ten cents!" "Well," added the p. f., "I've been bothered to death with my glasses; spent tons of money, and here I buy these and find they're simply great!" We don't know what happened in the meantime but after the superintendent recovered he said reprovingly, like unto a father to his wayward son, "my friend,

what's the use of all my years of lens making after that? You admitted your prescription on your old glasses was wrong the moment you went into that store. Otherwise you'd have stayed out! Now, I ask you, if you were ill would you go to a cheap doctor? Absurd! Of course not, you say! Apparently you, a man of considerable intelligence, do not realize you have a precious organ—your eye. If you did you wouldn't go to a store and even try to *fit yourself*. So go to a responsible oculist or optometrist my friend—you're new glasses will stick on your nose and they won't hurt you perhaps—but neither will they cure you! That's all!" The friend reflected a moment—admitted the superintendent was right—as they all do—and joined the long list of non-thinking converts who seem to use their intelligence on everything except the eye itself.

Our Model Window

In our studio atop the building we have just built and installed a brand new model store. Our first photograph of it you will note on the next page.

It was designed at considerable expense. With it we plan to help the dealer. By incorporating new displays, new ideas in it from month to month, and publishing these in AMOPTICO our great list of subscribers can develop from it—at little or no expense to themselves—novel window displays with which to attract the passer-by. We hope it will be as successful as we anticipate, but it

must be used consistently to be effective. A store window either is its owner's most constant salesman or else betrays him!

To reward interest in this venture we will award a monthly prize of \$5.00 for a photo of the window display—using AOCO goods—that best carries out and improves upon the idea suggested in our model display.

Wouldn't You Shine to a Man Like This?

Las Vegas, New Mexico,
Feb. 11, 1915.

Dear Sirs:—Replying to your favor of January 22nd, would say that I find the AOCO Company's "movie" slides the best because they seem to have a way of getting the public's attention, besides being clear and perfect in workmanship. I am glad to have you know that we are using the Fits-U eyeglass mounting almost exclusively, as we find it has a wide enough range of adjustment to cover all of our needs, and is not as fragile as some other patents. I wish to thank you for the expression of your interest in helping us build up the business, and for the advertising matter, the cost of which we realize is no small item.

Signed—ROBT. J. TAUPERT.



Leaving Main Factory Towards Lensdale



A Dealer's Window

AS announced on our editorial page, we have built this model window in our own studio. We conceived it as a means of stimulating our dealers to interest in window display—a subject of great possibilities, but one which requires more attention than the average dealer is willing or able to give.

We shall from month to month give you basic ideas for new displays. From our photographs you may, with small loss of time, develop your own windows. The material required will be simple and inexpensive to obtain, and a nominal prize of \$5.00 will reward the dealer each month who sends the best photo of an AOCo Rice Leaders Ass'n display, for that month, using the line of AOCo goods featured in our model window. Photos must be submitted by the twentieth day of the following month.

This window was devoted to our Motor glasses of all styles. The model man, automobile tire, which can be borrowed, and dark greenish brown curtain material, according to the size of the tire, are all that is necessary. The material required is practically ready at hand. On the tire, suspended from the ceiling, we painted the Safety First inscription. By using the containers in which Vogue, Speedwell and Kilglare Motor glasses are shipped to you, we added the foreground display without additional expense. The attention of the passerby having been attracted violently to the window, he became interested in the display itself, the buying impulse was aroused and you see him stepping into the store. Try it out, even if you copy this direct. This is the Motor glass season and your display will be timely and effective.



NOVIOL

At last an American Made Colored Glass for American Trade.

WHILE this country boasts many up-to-date glass works of large size, hitherto none of them have given particular attention to the manufacture of optical glass for the manufacture of spectacles and this has nearly all been imported from abroad.

However, scientists in this country have been conducting vigorous and exhaustive research experiments and have for the first time produced an optical glass—Noviol. Not only have they produced a glass, but a unique glass possessing properties hitherto undreamt of. Just as we believe that our Sir Wm. Crookes Glass is the last word in tinted glasses, so also do we believe that this Noviol Glass is the last word in colored glasses.

It is an almost impossible achievement that such a splendid glass should have been made by the Corning Glass Works upon what was their first really serious attempt to make optical glass on a large scale. Before we go on to describe this in detail, let us see what is required of the ideal colored glass and examine the theories underlying them.

Why Noviol is better than any other Colored Glass.

If one lays down a piece of Noviol and Amber or Fieuzal side by side or any of the large quantities of greenish glasses now on the market, one sees at once that the Noviol is bright and sparkling like clear running water whereas the others are dull and muddy looking. To put it scientifically the Noviol has a high transmission for light, whereas the others are cutting down some of the light and this is one and a very great reason, why the Noviol is superior to the other colored glasses.

Another reason lies in the fact that Noviol absorbs a greater percentage of the harmful heat rays than any of the others. In the lighter shade it absorbs 45% and in the darkest 60%.

A third reason lies in the fact that Noviol removes the ultra-violet, violet and blue more completely than any of the others. The light shade which can practically pass for a tinted glass, removes all the harmful ultra-violet rays; the medium shade removes almost practically all the ultra-violet and violet, while the dark shade has all the ultra-violet, violet, and blue light eliminated.

A fourth reason is that they let thru the red, yellow and green more brilliantly than any other colored glass.

Finally this glass possesses one more wonderful and unique property not shared by any of the other colored glasses—when ultra-violet light is absorbed or cut off from the eye by a colored glass it is as a rule changed into heat, altho the amount of heat formed is probably so small that it could never be detected. However, Noviol does not change the ultra-violet into heat, but it changes it into light that the eye can see. We have here then a glass that is changing invisible light into visible light and thereby increasing the illumination. Therefore we have the

wonderful and paradoxical effect of a glass giving more light to the eye than actually enters the glass. No other glass that we know of now on the market has this property except the Crookes Glass.

*Noviol is Manufactured in Three Shades.**Light**For General Use.*

This is the one that is recommended for all general uses in the place of white glass. It is of a very light canary tinge, so light that the fact that the lenses are tinted at all is not observed by the wearer, nor is the fact evident to an observer except by examination.

*Medium**For Outdoor Use.*

This tint is of a decided canary tinge, and is particularly adapted for use in automobile goggles, eye protectors, and for the use of shooters, engineers and firemen, and in any place where a need is indicated for lenses that will shut out the glare effects from the sun, or from intense artificial light sources, and at the same time does not cut down the intensity of illumination sufficiently to affect the acuity of the vision. The diminished visual acuity that is caused by blue atmospheric haze is also done away with.

The Medium shade is, we recommend, an ideal glass for goggles, and for shooting and for any effect where sharp definition of objects is required and protection from artificial sources of light.

*Deep**For Occupational Use.*

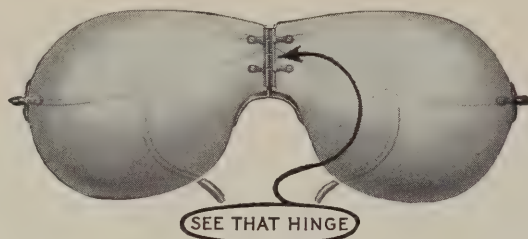
This is more nearly a true yellow and is the extreme depth in which NOVIOL Glass may be procured. It is recommended for use where special glasses are needed because of the occupation of the wearer making necessary a degree of protection from the intensity of light that would not be afforded by the medium tint. It cuts out, or eliminates, not only all of the ultra-violet rays, but also all the deeper blue and all of the violet of the visible spectrum, which are the rays in the visible spectrum causing fluorescence. At the same time it does not materially decrease the intensity of illumination, and actually does increase acuity of vision. This shade is also desirable for the uses as covered by the description of the medium shade whenever the wearer desires or needs greater protection from extremely brilliant light or reflections, as is the case in mountain climbing, ocean travel and tropical wear. It is recommended for use on very brilliant days to cut out too brilliant a light, at the same time giving that sharp definition of object which the medium shade gives. It will be invaluable in goggles where a dimmed light is necessary.

We are exceedingly proud to market this, the first of the optical glasses to be manufactured in America. We predict that this glass will take the place of Amber absolutely for automobile goggles. This is the auto season. Inquire of your jobber, and he will be able to supply you immediately.





THE AUTOGLAS



NO OPTICAL STOCK
IS COMPLETE
WITHOUT

THE AUTOGLAS

Trade Mark, reg. U. S. Pat. Off.

IS the only hinged bridge
Eye Protector made,

(Patented May 2, 1911)

as this is a patented feature that cannot be used except in the AUTOGLAS.

Retail price, with standard Amber Lenses, each \$5.00. Write your jobber for particulars. May be procured with white, or any color desired, at a slight additional cost.

Do You Believe in Signs? An AOCo Family Crest

FANCY a lustrous black crest of the AOCo, a transparency with beautiful crimson lettering outlined in gold, adorning your shop door window. We are so pleased with it that we've put one up on the office door here and have had trouble in doing any work since, so heartfelt and loud are the exclama-

tions of the office force who pass and view it approvingly. Even the President chanced in the other day—work? Say! how we did apply ourselves—and exclaimed something appropriate and flattering, not having seen it before.

We looked up

startled-like, blushed to the proper color and resolved then and there to tell you about it. It now becomes a trade secret—be sure to whisper it around and order direct, care of publicity department. There are some subjects we don't care writing about, but honestly this one should be handled by a Shelley—it's exquisite. Don't let it pass, for it will be an everlasting delight to the eye. Write in; they're free as the ozone.



While They Last!

THESE green and white No. 17M44 poster stamps are at your disposal. We have given away 162,000 of these already. Considering the demand we are obliged to limit your orders to 100. So come while they last—no letter is complete without one.



No Fault of Ours!

Finds Man Model Not Model Man.

(N. Y. Sun)

Sister of Cuban Secretary of State Tires of Supporting Jealous Husband.

Mrs. Elise de la Guardia de Aguiar,.....was in the Supreme Court yesterday to prosecute her suit against Sebastian de Aguiar, who is an artist's model when he works.

Announcement !

THE price of our M72 Automatic Rimless Edger, owing to perfected improvements, has been raised to the trade price of \$156.25.



Stop Your Ticklin' Jock!

Two of Our Finest!

Aha! You say. I've seen this before. Sure thing—September AMOPTICO, page 6. You never expected all this young life bunched up together to die, did you? You never dreamed these smiles could fade and the little wee hands stop shaking? Perish the thought,—but our representatives, never!

Now this chipper, dapper chap on the left—sh! It's brand new dope from a visiting English customer,—is known among the trade in London as "Jock" Moseley of the AOCo, Ltd., twelve years a member of the City of London Artillery. Of nights, when he has nothing else to do, "Jock" attains to heights undreamed of—stands behind an aeroplane gun, they say, on the Arch, hand to brow, peering left to right through the inky blackness (Dick Merriwell). Woe betide the aviator who tries to put one over on this Arch defender,—England's Eye Protector! Te Salutamus! Our informer saith numerous invisibles came sailing through the ultra-violet but were cut off. (Testimonial)—Jock wears Crookes Glass! Fool Jock? Boohbah! Daytimes he moves and has his optical being in our AOCo London office. Directly above him and to the right in the picture is our A. C. Smalley recently sent to San Francisco to manage our coast branch. They look friendly, don't they? The headline explains the



The Men with the Sharkskin Grip

to hosts of friends. In his new position at the Exposition City we wish you no greater pleasure than cultivating the acquaintance of our Mr. Smalley, whom we chose from among many to serve you on the Coast.

Our San Francisco office is ever at your disposal, particularly during the Exposition; we expect you to use its telephone, hotel list, writing, and other facilities upon arrival.

outward symptoms. But inwardly Jock's tickled too because Smalley just asked him to sing and he's staccatoed, falsettoed and trebled an answering "Yes!" Etc. Etc.

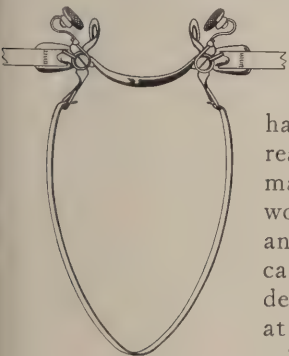
But whatever the kidding in process, this article is to serve a two-fold purpose—to introduce them, one to the other, again, and to recommend them both to you as sterling AOCo representatives who possess the winning personalities and handshake of genuine friendship that commend them

The Latest "Wrinkle" from England

Mr. A. Benson Ray, a Fits-U Luxe enthusiast of Bury, Lancashire, recently favored us with a sample of a device which he has been using with success for some little time as an aid in fitting the Fits-U Luxe.

While not an absolute necessity we think perhaps there are some of our readers who might care to make use of this idea in their work. So we have shown here an illustration from which one can easily make up such a device with simple materials at hand.

The device is composed simply of a spring formed in the shape of a letter "U" with a portion of the extreme ends turned inward. These ends, as can be seen from illustration, are intended to catch in the finger clips which move the upper movable guards of the Fits-U Luxe; the outward tension of spring will then hold them open at their widest extension, while fitting the lower or

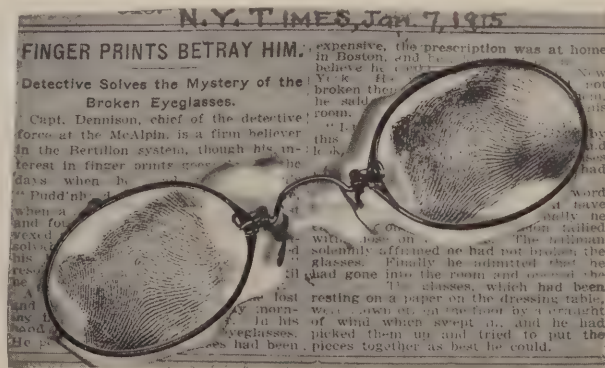


fixed guard to the patient's individual requirements may go on with ease and simplicity.

Crookes Says Radium Tints Diamonds

Sir William Crookes, F. R. S., finds that on exposure to radium emanation diamonds become of a full sage-green tint, the depth of which depends on the time of exposure. The color continues undiminished for years. What effect, if any, radium has on glass is a question of interest to us. Probably a very marked one, inasmuch as we know ultra-violet rays turn white glass to amethyst.

The Fingerprint Always Fits-U





(Continued from page 6.)

of that color is clearly discernible in dimming the field of vision and removing glare when looking through the glass. Under this definition there are not very many what we could call tinted glasses. White glass is really a tinted glass, the degree of whiteness being only comparative. Smoke one should also call a tinted glass although there are shades of smoke that impress a strong color on objects; some shades of smoke give a red color, others give a green color; amethyst again is a tinted glass and it would be very hard indeed to say what color amethyst impresses on the mind, that is, when one looks through a piece of amethyst glass. Therefore, if a customer comes along and says he wants the best glass to cut out ultra-violet rays the first question to ask is, does he want a tinted glass that will not alter colors or does he want a colored glass that will alter colors? The next question is does he want a tinted glass that will in addition to removing ultra-violet rays cut down the light or does he want to let all the light through as much as possible. For some purposes a tinted glass possesses the advantage over a colored glass in that it does not alter colors, but for other purposes and what we have not yet considered the colored glass possesses certain distinct advantages over the tinted glass. It is now necessary to digress and explain the theory of colored glass.

Primary Object of Colored as vs. Tinted Glass.

In the first place what makes the sky blue? You will see in the production of the spectrum how the blue and violet rays are refracted more than the red, yellow and green and the same effect is obtained in nature; the dust and moisture in the air scatter the blue and violet rays more than they scatter the red, yellow and green. The *primary object* of colored glasses, as against tinted glasses is to remove those rays which are most refracted thus leaving less colors in the spectrum and making the images of the objects which we look at more clear. This ability is possessed by the different glasses to a different degree and our specification for *colored* glass is to say that we would prefer one which will remove all the ultra-violet, violet and blue light and at the same time leave in the red, yellow and green to the highest degree. The wearers of certain colored lenses have repeatedly stated that they can see and shoot better, and they derive great comfort from them when driving their automobiles. Another point has been noticed, too, without knowing the reason why and that is, when one is doing a lot of

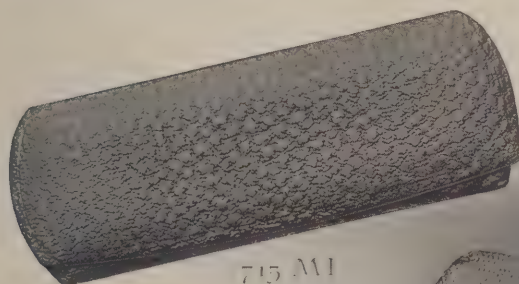
writing if one uses white paper the eyes become fatigued after a while, but if one uses yellow paper the eyes can do a great deal more than with the white paper, the reason being that the yellow paper is not reflecting the blue, violet and ultra-violet rays; hence, the eye is seeing the print easier and at the same time is not having the irritating effects of the ultra-violet rays acting upon it. On examining the effect of putting the various colored glasses in the spectrum we notice that they all more or less cut off all the ultra-violet, violet and some of the blue light differing only in their ability to let through the red, yellow, and green more or less untouched. That glass that lets through the red, yellow and green in the highest degree will be the best for long distance work while that glass which absorbs some of the red, yellow and green will be good for very bright days in cutting down glare.

Colored and Tinted: Each Has Its Field.

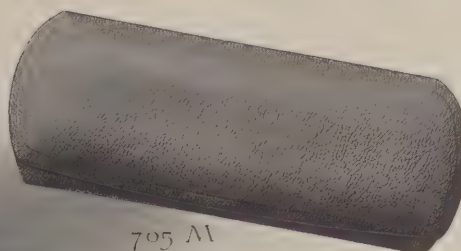
It must be borne in mind that the tinted glasses are not to be compared with the colored glasses. Each type, tinted and colored, has a field of its own and there is ample room and necessity for both fields. It must be remembered that tinted lenses are for the purpose of excluding as much of the ultra-violet rays as possible, also the heat rays, at the same time letting through the rest of the colors unchanged. The colored glasses are for the purpose of absorbing all the ultra-violet and heat rays and letting through the red, yellow and green undiminished while cutting off the violet and blue as far as possible, all at the same time.

It is up to your profession and our trade now to take advantage of the labors that have been expended in producing these new glasses. We have before us a means of benefiting humanity, a simple means and a practical means and we want the public to realize that it is not to cure sore eyes so much as to prevent those eyes from ever becoming sore. It is up to you to carry on the good work so ably begun, first of all by the German scientists, then more fully and methodically by the brilliant work of Sir William Crookes and the great labor and pains taken by the glass makers to produce these glasses on a commercial scale and lastly I can personally assure you that the AOCO has not blindly accepted the word of the producers of these glasses but has gone to quite a lot of expense and scientific research in proving to their own satisfaction that these glasses were not fakes.

VICAR COVERED LINE



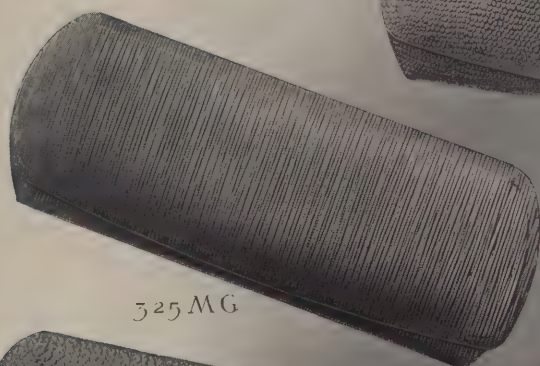
715 MI



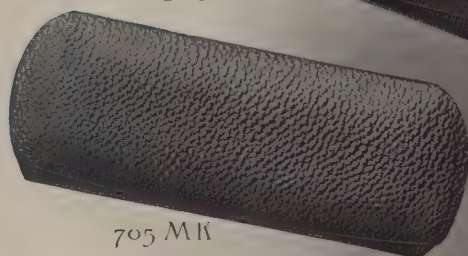
705 MI



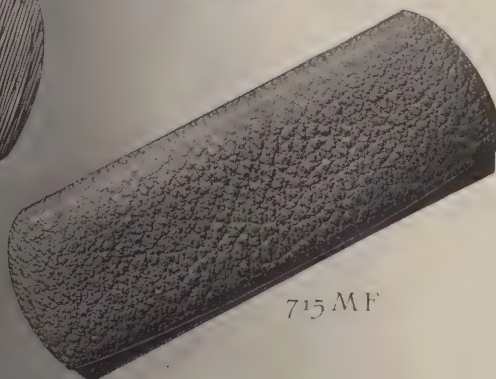
327 M Lizard



325 MG



705 MK



715 MF



377 MG
Long Grain

THE Vicar is a dignified, impressive looking covered line that will attract wide attention in the trade.

It was perfected out of the wide and deep experience of years by the manager of our case department. The same quality standard that we hold up for our metal lines still holds good for every new leather line we put out.

We call to your particular attention that this Vicar line *smells, feels and looks* like genuine leather. We don't expect you will be able to duplicate its combination of constructive features, wearing qualities and moderate price anywhere in the trade. Try us and you'll be supremely satisfied. Ask your jobber.



YOUR WINDOW CARD FOR APRIL

Send For It

Put it in your window so that the people in your town who see our advertising will know that you sell our goods.

Ask also for the April ad for your newspaper and the April lantern slide for your picture theatre. They are all sent free, imprinted with your name and address.

ADVERTISING DEPARTMENT

American Optical Company

SOUTHBRIDGE, MASS.

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to your...
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Join the "Army"

All Work and No Pay
Annoyed, the whole...

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...community...

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Lem Gurnea, how about the new
Lem Gurnea first day, - (on New
Lem Gurnea week Great Success

the new King
making economy
optical or cylinders
gift to Columbia University of optical
the number working paper
motor attachment
the Young American Complete with
our place
a responsible guarantee stands behind
the new M-64 will
the new Young American Automatic Paper
To users of Keweenaw offering
of late years
Great strides made in this Department

Metaphysics
the Trade
making quick turnover and large profits for
May Advertising Campaign
man with priceless reputation, the
Mighty, my my my

Model Count roll into the hands of the enemy
Movies create business, how the
number

It You are any Judge of Values
Of quality that all matters
We knew you would recognize
Good Value

Good Value
We knew you would recognize
Of quality that all matters
It You are any Judge of Values

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Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. IV

April, 1915

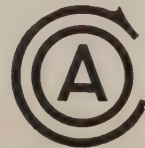
No. I

Kee Lock

The newest most
perfect and most
inconspicuous
screwless mount-
ing -- (See Page 11)

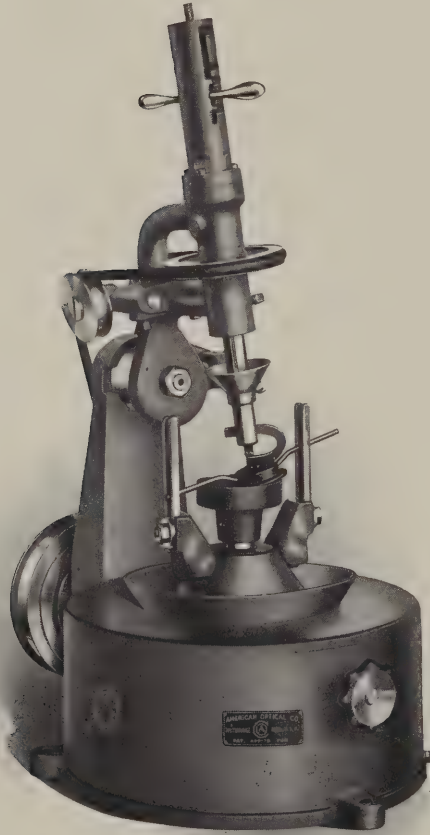


**The
Fits-U
Optical
Shop**



New Toric Machine—M28

“The American”



Patented. Other Patents Pending
M28

“THE AMERICAN” is a cylinder and toric lens grinding machine with several new and distinctive features.

Chief among these is the grinding of stronger curves accurately with freedom from all “waves.” No other machine of this type will accomplish this.

Simplicity throughout is a strong characteristic incorporated in the No. M28. It uses circular motions only, ensuring longer life than the jerking, oscillating movements of other types. The base contains only one pair of bevel gears running in oil.

By building it in independent single spindle units we have engaged the interest of the man who wants a machine with an odd number of spindles. This is the only single spindle machine now produced. It adapts itself, therefore, to the small shop and its particular, limited needs. At the same time where several spindles are installed the operator, while examining one spindle, can keep the others running.

It will be noticed in the illustration that the upper spindle is not vertical, but tilted. This novel feature brings the pressure square against the lenses.

An adjustment is likewise provided that gives equal wear on the entire surface of the tool. Other minor features provide bearings with renewable bushings, and the ability to adjust pressure on the vertical spindle while the machine is in motion. It is “The Silent Worker.”

“Almost silent when in operation”

Price, \$125.00 F. O. B. Southbridge, Mass. Net Weight, 113 lbs. Gross Weight, 213 lbs.



Amoptico

Optical Machinery

Great Strides Made in This Department of Late Years

AS historians measure time, the development of machinery for opticians extends no further back than yesterday. There are comparatively young men who can still remember when cylinders were all ground in a prescription shop by working the lens laboriously back and forth *by hand* over a piece of brass pipe or other cylindrical form. Lenses were cut by hand with a broken file traced about a pattern held in the other hand next to the lens. Holes were drilled with crude steel drills and broken lenses were numerous. Edging was done by hand on natural stones.

While some of these were well suited to the work it was always a gamble whether the edges would be rough or smooth. There were liable to be coarse streaks in these natural stones, which cannot be compared to the uniformly graded artificial product of today. The first surfacing machines were crude modifications of the potter's wheel.

But within a decade the progress of the optical business has been stimulated remarkably by the exacting requirements of the profession. Many opticians and optometrists, foreseeing the coming public demand for quicker and more accurate service, began the installation of individual machinery outfits. These conditions opened a new field to the manufacturer, who forthwith began the development of special machinery.

Whatever the future may bring forth one thing is certain, namely, that this insistent public demand, expecting immediate service, is going to be met successfully by the wide-awake optician equipped with up-to-date, accurate and efficient machinery. The man not so situated will lose customers, who will seek elsewhere for the quick filling of their prescriptions.

Our Part in its Development

As manufacturers, who have watched this demand from its beginning, the American Optical Company

has devoted considerable attention to the development and production of new machinery for the accurate, economical and efficient fabrication of the lenses and their mountings. This company has always insisted upon and maintained standards of Quality and Workmanship that have been accepted and imitated by the entire world in the manufacture of the various component parts of spectacles and eyeglasses; and this has been no small factor in the ease and facility with which these standard parts can today be assembled into the complete mounting.

The Invaluable Assistance of Friends

With its vast resources and its corps of skilled optical specialists and engineers familiar with every theoretical and practical detail of the business, it entered this new field with characteristic thoroughness and efficiency. Invaluable assistance in the development of this machinery department has been rendered by our friends and customers whose coöperation has been one of the most pleasant features of its business life.

Recent Development

So rapidly has the business grown that those who have not already done so will find it well worth while to investigate our latest models with their many space, labor, and time saving advantages. A recent installation of a six spindle surfacing machine is a case in point. Equipped with a steel top which resists the action of water and emery, and is easily kept clean; with a tool rack installed at the back, and furnished with automatic polishing spindles, the entire outfit takes up about one-third of the floor space ordinarily used, and provides for rapid and efficient handling of work.

For the Man With the Small Shop

For the man with a smaller business there are some remarkably fine tools and machines of low cost operated by hand or power—our M75 "Young



American" Edger for instance (see page 19), which produces wonderfully accurate results. This man can well afford to use his spare time in this profitable and interesting shop work. It enables him to give the same quick and accurate service in his little town as his colleague located in the city. He is thus provided with the mechanical means for developing and retaining satisfied customers.

What the M72 Edger Has Done

Our M72 "American" Rimless Edging machine, by utilizing mechanical principles developed by our own staff, has revolutionized the grinding of rimless lenses. An uncut lens 42 mm. square has been ground to a 32 x 41 regular oval size in three minutes. Why this is so has been the subject of constant inquiry by the trade. The answer lies in the relatively slow speed at which the lens revolves, giving the abrasive stone time to take off the stock over a large arc of contact, before moving to a new surface. Two of these machines at the same time, in a recent installation, have replaced three machines of older types. And they increased the capacity of the shop.

M75 Edger for the Moderate Priced Demand

In this issue we announce our M75, the "Young American," the lowest priced edger on the market, yet a very simple and efficient machine producing a fine quality of work. It is an automatic rimless edger, extremely simple and easy to operate, and requiring a very small amount of power. In fact, it is possible to operate the M75 with a $\frac{1}{6}$ horse power. Its noiseless, clean operation and its ability to run for a day at a time without the necessity of carrying fresh water or disposing of the waste, makes it particularly desirable for location in an office or even for window demonstrations, aside from actual shop usage.

Our New M28 Toric Machine

Our new M28 American Toric machine, which has been announced on page 2 being built in units of one spindle, provides for the man whose demand for this class of work is not large. It also affords a flexibility that will give the larger user just the number of spindles that he needs. As it is frequently necessary to stop these machines to apply the abra-

sives, or for examination during the grinding process, our M28 saves power and time and permits any other spindles that may be running to continue operating *without noise*. Another advantage is the ability to grind strong curves without producing "waves." No other machine possesses these features.

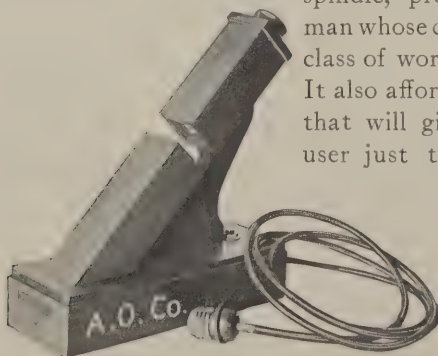
Another Improvement

Our new Turret Head Diamond Holder, shown on page 5, is self-descriptive and will commend itself on inspection. Applied to our No. M51 or No. M52 Factory Lens Cutter it provides for the cutting of the widest range of surface curves from strong concave to strong convex.



*M51
(Patented)
Lens Cutting Machine. For detail see next page*

Experience has shown that when a diamond is set to cut properly its position should not be moved, as the least change will often completely spoil its cutting qualities. AOCo Turret Head Lens cutter has two separate diamonds set rigidly in a movable head "A." A key located inside locks the diamond positively in position. By gripping the spherical shaped head with the thumb and finger and pulling downward the key is released and the head may be turned around so that the other diamond drops into place and locks itself in position. This being set for toric lenses and the other of course for flat lenses. Two diamonds last longer than one and each is rigidly held in the one position best suited for its cutting qualities.



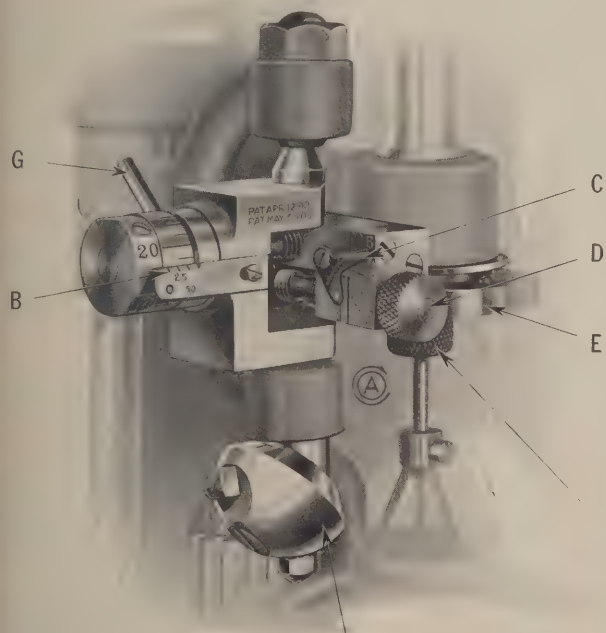
AOCo Colmascope (Patented)



Amoptico



The cut shows the Turret Head as attached to our M51 "Factory" lens cutter. B shows the micrometer dial for setting lenses to size. C is the indicator controlled by the thumb screw. D for adjusting the shape of oval desired on the lens. The one pattern, E, cuts 5 different shaped ovals 6-7-8-9- and 10 patterns. It is easily removed by turning the knurled lock, F. G is a lock nut for the micrometer screw. The price of this attachment is \$12.50 extra.



A

New Turret Head Diamond Holder

The Future

We expect to announce shortly two new types of drills, one particularly adapted for the quick operation demanded by the larger prescription houses, and one very simple machine primarily for the use of the optometrist.

Other machines will be forthcoming both as the demand requires, and our study of the needs of the trade indicates. In this department we have concentrated the abilities of mechanics and engineers who from experience know the practical needs of the trade, and can produce the tools to meet them. We shall endeavor to meet all needs without sacrificing the quality standards for which this company has become known. We have an exhibition room fitted up with machines in actual operation for your inspection, and you are cordially invited to visit it: it was arranged in anticipation of such visits as we are constantly receiving. If you are interested

write us about your problems: we shall be pleased to receive and answer correspondence indicating the amount and arrangement of your shop space, your needs and problems. You will

receive most careful and enthusiastic attention. Address—Care of Machinery Service Dept. Avail yourselves of the experience and ability of our machinery service staff.



No. M131 Buffing Head

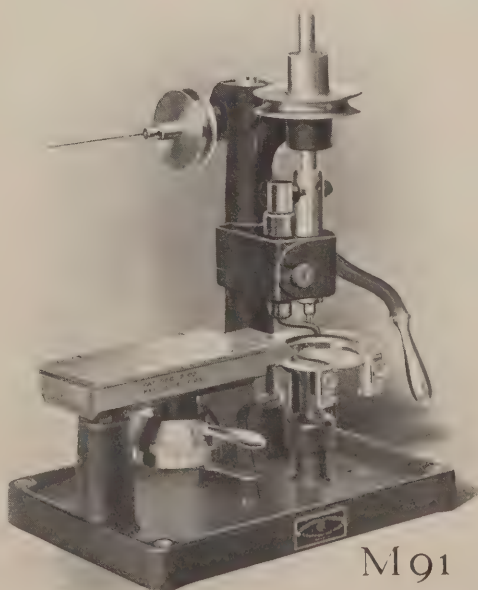
Do Results Justify Claims?

"Gentlemen:—Referring to the last two Surface Grinding machines No. M21. After interviewing our Surface Grinders, we are very pleased to be able to state that, after purchasing and trying a number of other surfacing machines, some of them three times as expensive as yours, we unhesitatingly pronounce this machine to be the best we have ever used. The Efficacy of the emery protection and the simplicity and easy running of the machine being very conspicuous.

You are at liberty to use our name in this connection if you desire to do so. Just as soon as our five machines of other makes are worn out, we intend to replace them with yours. From Mr. Bugbee's lucid description in the first place we were inclined to favor the machine and our expectation has been fully realized.

Wishing you the success you certainly deserve with this Surface Grinder,

Yours truly, R. N. Taylor & Co., per R. N. Taylor."



M91

Patented

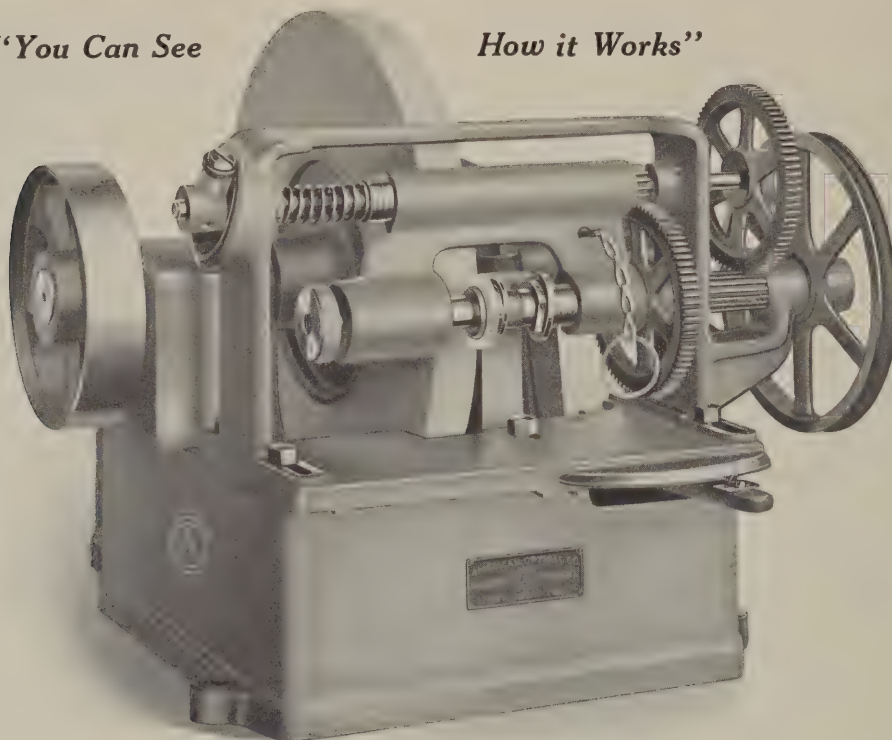


us **Amoptico** you



"You Can See

How it Works"



M75

(PATENT APPLIED FOR)

The New "Young American" Automatic Edger

Is Simplicity Itself in Construction and Operation

WE HAVE produced a new Automatic Rimless Edger—No. M75—that is a marvel in simplicity, low price, and silent operation.

These are the distinctive features designed to meet the demand for a moderate priced edger of simple, but sturdy mechanism. Rigid and strong, it has a productive capacity equal to many of the most expensive machines now being sold.

The AOC Co Young American Automatic Rimless M75 Edger is the lowest priced edger on the market. It costs you, including an equipment of five formers, only \$70.00 F. O. B. Southbridge. Code word "Yamedge."

We were able to arrive at low price and simplicity because our efficiency experts evolved several radically new features. These are some of its distinct departures in principle from existing types:

In the first place in our No. M75 the stone does not oscillate, but the lens does. This radical change was made on the theory that the lens-turning mechanism

is lighter and easier to move than the heavy stone.

The second simplifying factor is the rotation of the lenses by gears, which drive on one side only, leaving the other side free for a simple and efficient clamping device, working against hardened and ground steel ball thrust bearings.

Thirdly, our lenses are suspended from above, which protects the working parts from stone drip.

Our M75 covers a larger range of sizes than any machine on the market, from 18 to 48 mm. round. The stone is of finest composition 12 inches in diameter with a 1-inch face.

By this happy and efficient combination of radically new mechanical principles, we have so eliminated the use of a large number of expensive parts as to enable us to manufacture a moderate priced edger. This machine will fit into all sized shops, and should be a boon to the man who cannot afford, or does not need, our larger and expensive M72 Edger. Order the M75 through your jobber now.

The Lowest Priced Edger on the Market—Price \$70.00

Net Weight— 96 lbs.

Gross " —166 lbs.

F. O. B. Southbridge, Mass. Code Word "Yamedge."

Gentlemen of the Jury, the Men with the Sharkskin Grip

HAVE testified that Commodore A. O. Finny pictured here before us has outstayed his less enduring competitors. True, he charges \$1.50 more for his services, but Californians were tickled to pay it to him because he stuck with them when others lost their grip. Now the folks East are coming to appreciate him and demand his services. This is where California steps in generously and lets him

emergency. No repairs, red streaks on your nose, irritation or anything else. Just the continued happiness and satisfaction of a Sharkgrip graduate, who's been taught this is the best mounting money can buy. From all points of view Sharkgrip should be the most economical in the end, the most satisfactory; it has the *strongest grip with the lightest spring pressure* ever produced, and such facts should immediately commend it. The nominal increase of \$1.50 over our regular Fits-U's should be no material consideration whatsoever. "Works of Quality Bear Their Price." California has shown you something better than zylonite, real A No. 1. Will you take it? Ask your jobber.

work East, realizing that representatives of the Commodore's calibre reflect great credit straight back to dear new California.

The Commodore didn't take much luggage—just *the strongest grip with the lightest spring pressure* on the market. Also a couple of sharkskin pads with teeth cured so as not to pinch, but just strong enough so's they could pull against the guards if he got into a rough-house.

This picture of the Commodore was taken just after a swim and before he started East. He was mounted on guard comfortably near Nose Bridge and remarked then that he was never bothered by perspiration—that swimming had made him immune. Nothing seems to affect him anyway. When he takes hold of you, you know you're in *some* Sharkgrip. But it doesn't hurt you, and you have that satisfaction in knowing he's right there in any



(Patented)

Sharkgrip Mounting, with skarkskin pads:—

1/10 to 12K Gold filled.....	per doz.	\$8.50
10K Gold.....	" "	18.00

Did You Hear About It? A Model Scout Fell into the Hands of the Enemy



(Patent Pending)

YES! A dealer has one in his power and writes in asking for the best eyeglasses and spec-

tacles we have, for Private 17M30 of our model scouts.

The glasses must be of the correct P.D. and nothing but the best will do, he says.

Now, we like to have all you folks admire our Model men, but we *must* discourage his adoption as a sweetheart or a companion.

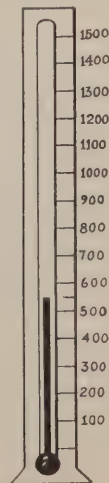
We have the utmost sympathy for this dealer; honest, we here imagine he probably never married nor had anyone to take care of? Or do you suppose it's just

doggone lonesome ness?

Well, we give up! He's popular anyway, as you note by the thermometer, 550 sold to date. Gee! This is the *existence*.

17M30, \$7.50. F.O.B. Southbridge, Mass.

Watch this thermometer rise in the months to come. Get a Model Man and watch your sales rise.





Amoptico



New Goods For Our Live Customers and Dealers

THIS No. R177 White Zylo spectacle you see here is the first of its kind on the market. We do not predict a world-wide demand for it, but we expect a call from those who may find it as attractive a reading spectacle as our dark shell and zyloware



R177—White Zylo Spectacles

spectacles, and this is the recommendation we make for it—for general use in the house and by doctors, dentists and those with whom strictly sanitary accessories are a necessity. This frame is not as conspicuous as it might seem at first glance. It does not contrast with flesh color as vividly as dark shell and zyloware fronts. We would advise your trying out this novel frame, particularly displaying it in your window. If you are enterprising you might dress up a white optical window specifying the adaptability of your goods for medical and sanitary purposes. Trade price per dozen \$9.00.



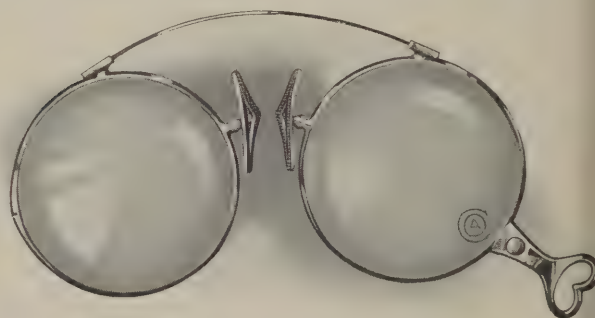
No. 3631 Fits-U "Pad Bridge" Spectacle

Our No. 3631 Fits-U Spectacle bridge, 1/10 12K, next shown, is particularly adaptable to a short P.D. with large lenses. The pads are integral with the bridge, which is easily adjustable, hence "pad bridge" a very inconspicuous bridge and one that should command a large sale. Price per dozen \$4.75.

The No. 4742 Folding Varsity in 1/10 12K, which is our last exhibit, is a slight variation in style from our prevailing Varsity styles. It has a ball joint at the base of the guard and is manufactured in silver as No. 3742. No. 4742—\$22.50 per doz.; No. 3742, \$27.00 per doz.

Besides the goods here illustrated, we have perfected a new guard for our solid gold Varsities. This guard is the only feature that distinguishes this No. 2715 from our 2712 14K Varsity. It is readily adjustable, comfortable and serviceable. We believe this 2715 14K Varsity to be the most important improvement in this style eyeglass for a long time.

Our 03103 Fits-U Mountings are now supplied with our newest platinum faced guard. This guard



No. 4742 Folding Varsity (Patented)

is made up with a gold filled back and thin platinum face. Although the platinum is thin it will stand long wear. It adds perceptibly to the tone and appearance of the entire mounting. We can supply this facing on any of the regular sanitary rocking styles or, if desired on the 3112 style guard, we can supply the rocking pad made in this way. Price per dozen, \$8.00, complete.

AOCO UNI-BIFO LUXE

Reg. U. S. Pat. Off.

The Onepiece Bifocal Lens

Covered by exclusive patents is made from a single, solid piece of crown glass, on whose surface two lenses are ground invisibly, as thin as you choose, with no dividing line.

"The Single Lens With a Double Purpose"

Luxfel—A Tinted Glass of Wide and Deserved Popularity

(Trade Mark, Reg. U. S. Pat. Off.)

FEW colored or tinted glasses have survived the test of time and public satisfaction as well as the widely popular Luxfel, a very pale yellow tint that has been on the market for years.

The reason for this lies close at hand. At a time when public demand was running irresponsibly to all manner of unsightly glass—on the theory that because it was colored it must be a cure-all—Luxfel was produced as a scientifically correct glass based on both the scientific knowledge of light and a way to avoid its harmful properties.

Its very color, almost like white glass, gave it instant popularity, and the fact that it cut out a large fraction of the injurious ultra-violet rays without materially lessening the brightness of vision set up a wide demand for it, particularly in the West.

The impetus given to this scientifically conceived and produced (tinted) glass, at a time when others were vainly trying to discover a scientific glass has increased with the passing of time.

It is doubtful if the popularity of this glass could ever be lessened in many quarters, so strongly is it a favorite with some people.

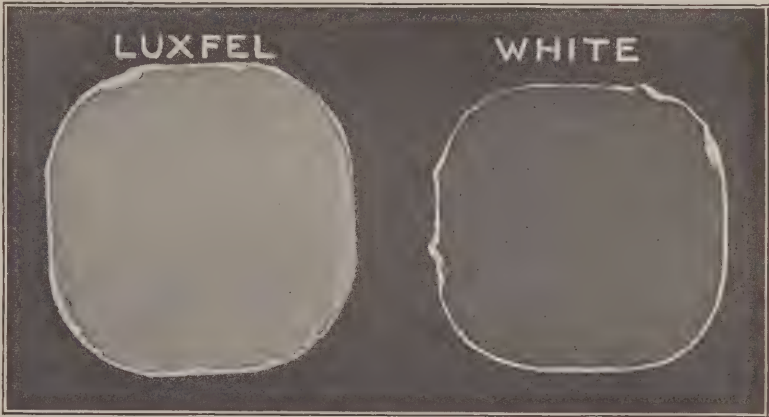
It showed the wearer practically for the first time a glass that could be worn without attracting undesirable attention, and yet possess such desirable properties and retain normal vision all the while.

More specifically Luxfel cuts out a large part of the ultra-violet rays, far better than amber or Fieuzal even if the last two were of twice the depth of Luxfel. It carries therefore a high and deserved reputation as a beautifully tinted protector against the ultra-violet rays. The visible colors of the spectrum are let through, as usual, practically unchanged. It is therefore possible to identify colors when wearing these glasses, which cannot be said of amber or Fieuzal.

Luxfel is a glass that cannot be ignored if you are looking over the tinted glass field. It is a hard, scratch-resisting glass with a refractive index 1.523 and is made in one shade only. The name it has made, the position it enjoys cannot be impaired by tinted glasses to come for it does its work thoroughly, efficiently and well.

The photograph here shown demonstrates the comparative effects of ultra-violet rays through ordinary optical glass and through Luxfel. Ultra-violet rays are actinic, and their chemical effect on a

photographic plate is immediately discernible. In this illustration it will therefore be observed that the white glass interposed no obstacle to the passage of the rays while the Luxfel, designed to absorb the ultra-violet rays, prevented their passage and preserved the plate. So is the eye preserved from the



This photograph shows how Luxfel Lenses hold back the injurious actinic rays of light, while the ordinary white lenses allow all rays to pass through.

rays. The comparison is quite vivid, showing more vividly than the written word the sight saving properties in Luxfel.

Prices:

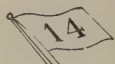
Blanks	
47 mm.	
PRICES—PER PAIR	
Flat.....	\$0.45
Moulded.....	.60

Lenses				
Prices per Pair	Uncut 47 mm.	Edged	Edged and Drilled	Minimum Retail Prices Net
FLAT SPHERICAL				
0.12 to 2.	\$1.00	\$1.25	\$1.50	\$3.00
2.25 to 4.25.	1.10	1.35	1.60	3.00
4.50 to 6.	1.25	1.50	1.75	4.00
6.50 to 8.	1.50	1.75	2.00	4.00
MENISCUS				
0.12 to 2.	2.00	2.25	2.50	5.00
2.25 to 4.25.	2.25	2.50	2.75	5.00
4.50 to 6.	2.50	2.75	3.00	6.00
6.50 to 8.	2.75	3.00	3.25	6.00
FLAT CYLINDER and SPHERO CYLINDER				
0.12 to 2.	2.00	2.25	2.50	5.00
2.25 to 4.25.	2.25	2.50	2.75	5.00
4.50 to 6.	2.50	2.75	3.00	6.00
6.50 to 8.	2.75	3.00	3.25	6.00
TORIC PLANO CYLINDER and SPHERO CYLINDER				
0.12 to 2.	3.00	3.25	3.50	7.00
2.25 to 4.25.	3.35	3.60	3.85	7.00
4.50 to 6.	3.70	4.05	4.30	8.50
6.50 to 8.	4.05	4.40	4.65	8.50
Extra for PRISM in combi- nation with any of the above forms of lenses.....				
	1.00	1.00	1.00	1.00

FLAT ROUGH CYLINDERS		TORIC ROUGH CYLINDERS	
0.12 to 2.	\$1.50	0.12 to 2.	\$2.50
2.25 to 4.25.	1.75	2.25 to 4.25.	2.85
4.50 to 6.	2.00	4.50 to 6.	3.20
6.50 to 8.	2.25	6.50 to 8.	3.55



Follow the Flag of Gold-Filled Excellence



ONE of the most popular indoor sports we know of the year round is singing in the manufacturers' choir. Forces that were a moment hence indulging in a most un-Lenten Battle Royal now unite fervidly over those ancient strains "We Beat The World" and "If You Want Perfection We Are It."

Down in the auditorium proper sit Messrs. Oculist, Optometrist and Optician harking to the sedative refrains. No churchgoer under the long pole and eye of the old Puritan elders had anything on them for sneaking a snooze when the choir isn't looking.

Some ambitious choir member opens wide his mouth and shouts in a new gold-filled line, but the gang is wise and drowns him out by swinging into the anvil chorus "We Have The Best" and so on, till the optical trio are laid away to rest with appropriate services.

Only one other pastime can compare to it—picking trade names for optical goods. But we call to your attention that our 1/10 12K and 1/10 14K Flag Lines will demonstrate their own worth to you many times over. Our song is "Give the goods a chance; they will prove their own value." We will not claim any extravagant things for the line. Note simply the following worth-while facts.

We have here a permanent line of gold-filled goods of superlative quality and at No Higher price than ordinary kinds, combining the enduring qualities of stiffness, color, finish and superiority in construction and design.

In actual assay the 12K and 14K gold-filled Flag Lines measure up to or better than 1/10 12K or 1/10 14K. The Temples and Bridges, in anticipation of heavy wear, are reinforced with 1/8

12K, while Eyewires, Ends, and Straps are finished in 1/10 12K or 1/10 14K. The entire frame therefore assays better than 1/10 12K or 1/10 14K. Other incidental comfort and satisfaction giving features lie in the patented structural advantages of the AOCo Flag Lines. For instance, we have the Perfex, or pear tip, riding and cable temples, produced on automatic machinery demanded by such small and complicated operations. Then there are the beautiful comfort cables with new smooth tips, positively without peers in the world of temples. Another innovation, used hitherto only on solid Gold Goods, is the new small rounded back end pieces.

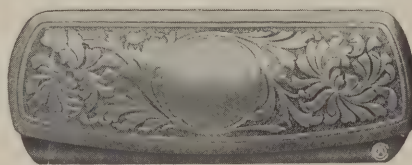
Consider all this!

Judge our Flag Lines then, strictly on their merits.

Ask your jobber.

Our Polished Aluminum Cases Are Here With The Spring

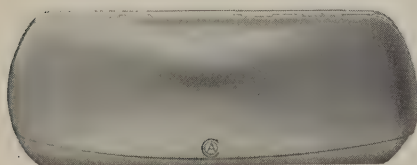
"You're as welcome as the flowers in May," the dealers say when they see these harbingers of Spring enter their kippy shops. Their light, serviceable and bright appearance always makes them welcome in these optimistic days. Our case department manager is a man of the world; he endowed these cases with curves that



AOCo Polished Aluminum Case No. 328 P.A.1

Cat. No.	Color	Per Dozen
No. 328 P.A.1	Without oxidization	\$4.25
No. 328 P.A.1 ox.	Oxidized black	4.50
No. 328 P.A.1 ox. 1	Red; ox. 3, green; ox. 4, blue,	4.50
No. 708 P.A.1	Without oxidization	4.00
No. 708 P.A.1 ox.	In any of above colors	4.25

would put the veriest chorus girl to shame. And he did it with classical design, so they would stand on their own merits. They are beautiful, dignified, and self-closing with carefully smoothed and buffed edges and silk velvet linings. The "ox" in the price lists below refers to those cases that can be oxidized in the colors indicated.



AOCo Polished Aluminum Case No. 328 P.A.

Cat. No.	Description	Per Dozen
No. 328 P.A.	Spectacle size	\$3.50
No. 706 P.A.	Small Fingertiece size	3.25
No. 708 P.A.	Eyeglass size	3.25
No. 716 P.A.	Large Fingertiece size	3.25



AOCo Polished Aluminum Case No. 328 P.A.2

Cat. No.	Description	Per Dozen
No. 328 P.A.2	Spectacle size	\$3.50
No. 706 P.A.2	Small Fingertiece size	3.25
No. 708 P.A.2	Eyeglass size	3.25
No. 716 P.A.2	Large Fingertiece size	3.25



AOCo Polished Aluminum Case No. 328 P.A.3

Cat. No.	Color	Per Dozen
No. 328 P.A.3	Plain	\$3.50
No. 328 P.A.3 ox.	Oxidized black	4.25
No. 328 P.A.3 ox. 1	" red	4.25
No. 328 P.A.3 ox. 3	" green	4.25
No. 328 P.A.3 ox. 4	" blue	4.25



Amoptico



(Patented. Other Patents Pending)

“Coming Events Cast Their Shadows Before—”

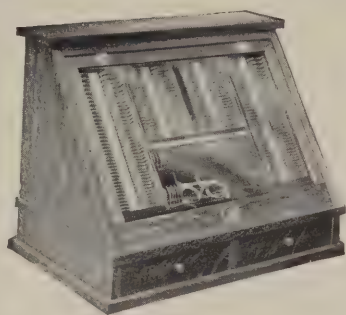
THE coming of KeeLock has already been noised about through the trade.

In our May AMOPTICO we shall reveal to you this radical design which includes physical principles never before incorporated in Screwless Mounting Construction.

Watch for It! Wait for It!
You will wonder why it wasn't thought of sooner.

Ask your jobber what's in a name.





No. 224I

Trial Cases in General

Yours in Particular

WHAT impression would your own Trial Case make on you, if you were to walk into your office to-morrow as a patient wishing to have your eyes examined? Any opto-



No. 212I

metrist's testing room is more or less of a modified doctor's office, into which the average man unversed in optical affairs is apt to walk with a feeling of uncertainty, hardly knowing what experience may be in store for him. At such a time every faculty is on the alert to observe details. Your Trial Case will be subjected to special scrutiny, and it is very important that the customer should receive a good first impression.

"Improvements in AOCo Trial Case keep step with every advance in the profession."



AOCo No. 305I Retinoscopic Trial Set

"Your reputation in everyday practice is protected by AOCo Trial Case accuracy and efficiency".

AOCo Trial Cases are Best in the World

and made to answer not only the immediate needs of the oculist and optometrist, but also to satisfy the unconscious criticism of the man or woman who looks at them from the standard of outward excellence. Possibly you have been meaning to buy a new set for some time, but it still remains one of those things which are to be attended to in the future. Remember that the purpose to secure AOCo quality has been

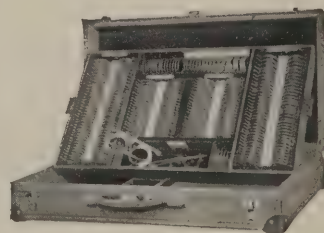
our first consideration in manufacturing our line, and whether you want an elaborate set with an expensive case, or a simple outfit that must answer every requirement of service without any show, we can supply you through your jobber.



Our General Catalogue shows what we make. If you haven't one, write for information and prices to your regular jobber.



No. 267I



No. 263I



Amoptico



Amoptico

Reg. in U. S. Pat. Off.

Vol. IV April, 1915 No. 1

Published Monthly by

American Optical Company

1833-1915

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Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.

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Pretty Good Emery—Yes?

SOME people have to be shown. They are known as Mis-sourians even though they hail from the ends of the earth.

We talked AOCo emery to a certain customer for a long time. He couldn't see it. He wouldn't be convinced that we had anything on anybody. We dared him to buy a five pound can, and like a true sport he came back at us strong. He said he'd give it a test to see what five pounds of AOCo No. 302½ finishing emery would actually produce in surfaces.

The result is interesting: 779 spherical surfaces were ground with that single can. He is delighted with the results, he has ordered 250 pounds, which proves it.

If you do any surface grinding, give AOCo emery a test yourself. That is, if the above is not absolutely convincing. Here's what

our Mr. Turner wrote in about this particular experience:

"Feb. 27, 1915
Secured 250 lb. emery order from _____. They are now using 302½ and like it very much. Shopman informed me that on a trial they had ground 779 spherical surfaces with 5 lbs. of the 302½."

(Signed) R. S. Turner.

Isn't Our Model Man a Success?

Here's an actual experience! Our Mr. Bugbee was visiting a dealer. In the window near by was a Model Man. Said the dealer in the course of the conversation, "I put in that Model Man there, but he does me no good." Bugbee reflected for several minutes before answering, with his eyes meanwhile on the model in question. Finally he said, "I've been sitting here ten minutes; what has been making so many people stop outside?"

What did make them stop? It was the commanding, attention-attracting Model Man. That's why we've sold over 550 of them to date. But this dealer thought he was getting nothing out of it. The Model Man was working for him—but he didn't know it! Think out this subtle question of advertising! Don't attempt to count it directly in dollars and cents. It is nothing more than the attempt to make everything about you, from your own personality to your window, attract, interest and please your customers.

There are a thousand ways of doing it—our Model Man is one—your own thoughts will tell you the other 999.

Old Age Has Its Compensations

Australia, Jan. 12, 1915.

Scientific American
361 Broadway, New York.

GENTLEMEN: As librarian to the Western Australian Rys. Institute (Kalgoorlie Branch) opportunity is amply afforded me

(as well as our many members) of perusing, and duly appreciating, the Files of the "Scientific American," which fill a prominent space on our Reading Room Table.

I have a friend who, owing to mature age, is no longer able to continue the strenuous work of his late occupation and is desirous of taking up, in this large Goldfield District, the selling of spectacles. For these reasons I am anxious to be able to procure from America, and from some bona-fide manufacturing firm, a quotation of prices for a regular and up-to-date stock-in-trade, such as would give a man of moderate means a fair start. I regret to say that to me, America, alas! is an unknown problem.

Very faithfully yours,

(Signed) _____

And Still They Come!

Louisville, Ky., Feb. 23, 1915

American Optical Company,
Southbridge, Mass.

Gentlemen: We noticed on Pages 12 and 13 of the AMOPTICO of February you offered, "Special Individual Advertising Service." We beg to inform you that under this head we used the "Toric Lens" and "School Room" Displays in our windows and we had great results. Our business showed a 25 per cent increase over previous months. This is certainly a great boost for the AOCo goods and advertisement service. We featured the "Fits-U" and the sales were large.

Having been successful in window display advertisement we are going to branch out to newspaper and circular advertisement.

Yours truly,

(Signed) DAVID ROTH'S SONS

Swearing and Optometry Should Not Be Confused

Unhappy Consumer—"I dropped these D—, D— glasses and smashed the lenses to splinters. What will new ones cost?"

Optometrist — (absent-mindedly) "2D. lenses. Yes, Sir, they'll be five dollars."



In These Days of Window Displays

A PAIR of our exactly proportioned model gold plated Fits-U eyeglasses, including lenses and stand, are available for \$7.50 F. O. B. Southbridge, Mass. This sounds like an expensive display proposition, until you consider the attractive power of it and the unique opportunity it affords of giving the onlooker an idea of Fits-U construction. All the patented features of the Fits-U are enlarged proportionately to enable your salesmen to explain its superior merits more clearly to the customer. Use it as the big department stores use models—to demonstrate the AO-Loop, and other features. Order now. You will use them this Spring.



\$7.50 Complete, F. O. B. Southbridge, Mass. Ask your jobber.

Galeski Always Ahead

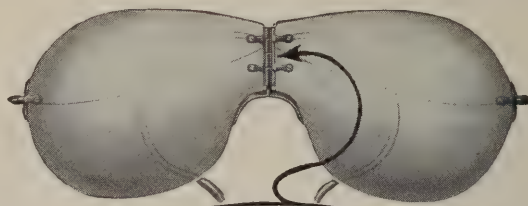
"Making war is Europe's business; making glasses is our business. We are both very successful."

Yes, the S. Galeski Optical Company of Norfolk, Va., talks to the point when they say this in their forceful window display. To catch the attention from afar they use an eye fixed to the window. To hold it they have cleverly installed a man's-height war map and run ribbons from the principal cities to discs on the store window bearing the unpronounceable names. Prominently in the foreground they have placed the now famous AOCo life-size Model Man and a large AOCo Fits-U Eyeglass, such as you see in above illustration. Then, they add the above inscription with pardonable pride!

We not only believe what they say but prophesy their pursuit of success will bring creditable results if they continue to reveal such live business traits. The S. Galeski Optical Company has an eye not only on the window, but business and AMOPTICO.

But read what our suggestions and the enthusiastic enterprise of Manager Gerald T. Eaton have brought him. Mr. Eaton writes: "the first few days the crowds collected until people had to walk in the street. Now—after several months—we never fail to see from ten to fifteen around this window explaining and debating—and dropping in!"

"The big Fits-U set in the middle of the display came in for a good share of comment and helped by its size to keep in people's mind the fact that we were in the optical, as well as entertaining, business.



SEE THAT HINGE

(PATENTED)

THE AUTOGLAS

Trade Mark, Reg. U. S. Pat. Off.

A universally popular motoring and shooting spectacle known to everybody. Unobstructed vision, perfect fitting, comfortable and efficient.

The AUTOGLAS is supplied regularly with amber lenses of periscopic shape, absolutely without focus. If desired it may be procured also with prescription lenses having the individual wearer's correction. While amber is usually desired and is supplied unless otherwise specified, white lenses will be supplied at the same price.

The AUTOGLAS is made with center piece and temples of gold-filled stock.

AUTOGLAS Complete in Case, retail price per pair	\$5.00
Trial Sets in case comprising four glasses, showing each of the different shapes	20.00

EXTRAS

In addition to the above prices, the following "Extras" will be charged:

For Plano Meniscus Glasses, dark amber, Fieuzal and Smoke,	\$0.50 per pair extra
For Prescription AUTOGLAS, dark amber,	\$2.25 per pair extra
For Prescription AUTOGLAS, Fieuzal or Smoke,	\$4.50 per pair extra
For Plano Meniscus and Prescription Glasses other than regular sizes	\$1.00 per pair extra

"All told my window did not cost me more than \$22.00 and I have had more advertising and comments showing that it really has paid than I ever would expect out of \$100.00 in the newspapers, much as I like them."





The Passing of an Optical History Maker—Father of the Trial Set

Frederick G. Blanchard, after 47 years' service with the American Optical Company, died on Easter Sunday in Southbridge, Mass., at the age of 67 years, 5 months, and 29 days. Since the death of the late George W. Wells, who entered the optical business four years before him, in 1864, Mr. Blanchard had become the oldest employee of the Company.

While he enjoyed the distinction of being a large factor in America's great optical development, yet his genius in starting, developing and expanding the trial case department of the optical business at the instance of Mr. Wells remains as his great, permanent contribution to the advancement of the profession. He was known as the "Father of the Trial Set" in America and held an undisputed position as the final authority on all the intricacies of these instruments. Aided by years of experience and study, in charge of the lens grinding department in the old factory, he built up the trial set business from nothing to the sale of thousands yearly. He foresaw the importance and possibilities of the trial set as a new field. As a result, while he himself never became widely known through the trade his trial set became known the world over. But its history throughout is, nevertheless, the history of Frederick G. Blanchard.

When he began in 1868 there were 85 employees only in the American Optical Company. There are now 2,600. He was put in charge of the edge grinding department. All lenses were then imported in uncut form. Later his duties were widened to



F. G. Blanchard

include oversight of all assembling of parts in frames, inspection for quality, size and accuracy, etc. When the new factory was built and the entire lens plant moved to it from the main factory about twenty years ago, Mr. Blanchard was given the opportunity to start the trial set business. His pioneering brought results and with the rapid growth of the business he continually brought forth improvements with an untiring energy and progressiveness that is said to have been characteristic.

During his career he saw the company rise from only a few employees

to the largest of its kind in the world. For the past fifteen years his invaluable knowledge about the trial set had kept him in the main office, from which he directed the trial set business and where he was consulted on the multitude of problems connected with this business into which he had grown so deeply and effectively.

On his personal side, about the office, he was greatly beloved for a lively, droll nature and sudden wit. He was considered the best after-dinner speaker on any subject in the company, and famous for a wealth of anecdote that was an inexhaustible fund of humor employed at the most unexpected moments whether in or out of business hours.

Like most of the sterling old timers, he was deeply religious and a man of strong convictions, but with a capacity for viewing both sides of a question and being convinced accordingly.

Mr. Blanchard was born in Charlton, Mass., October 5, 1847, son of Albert and Mary Ann (Goodell) Blanchard, moving shortly thereafter to Southbridge. Besides his wife, Jane McVey, he is survived by two daughters, Grace M. Blanchard of Cambridge, and Mrs. Eugene G. Walker, Southbridge. He leaves one son in the optical business, Albert Blanchard of Folsom & Blanchard, Atlanta, Georgia.

NOVIOL Is Setting The Pace in Colored Glasses

(Trade Mark, Reg. U.S. Pat. Off.)

THIS remarkable new colored glass should be used in the three shades as follows:

Light

FOR GENERAL USE.

This is the one that is recommended for all general uses in the place of white glass. It is of a very light canary tinge, so light that the fact that the lenses are tinted at all is not observed by the wearer, nor is the fact evident to an observer except by examination.

Medium

FOR OUTDOOR USE.

This tint is of a decided canary tinge, and is particularly adapted for use in automobile goggles, eye protectors, and for the use of shooters, engineers and firemen, and in any place where a need is indicated for lenses that will shut out the glare effects from the sun, or from intense artificial light sources, and at the same time does not cut down the intensity of illumination sufficiently to affect the acuity of the vision. The diminished visual acuity that is caused by blue atmospheric haze is also done away with.

The Medium shade is, we recommend, an ideal glass for goggles, and for shooting and for any effect where sharp definition

of objects is required and protection from artificial sources of light.

Deep

FOR OCCUPATIONAL USE.

This is more nearly a true yellow and is the extreme depth in which NOVIOL Glass may be procured. It is recommended for use where special glasses are needed because of the occupation of the wearer making necessary a degree of protection from the intensity of light that would not be afforded by the medium tint. It cuts out, or eliminates, not only all of the ultra-violet rays, but also all the deeper blue and all of the violet of the visible spectrum, which are the rays in the visible spectrum causing fluorescence. At the same time it does not materially decrease the intensity of illumination, and actually does increase acuity of vision. This shade is also desirable for the uses as covered by the description of the medium shade whenever the wearer desires or needs greater protection from extremely brilliant light or reflections, as is the case in mountain climbing, ocean travel and tropical wear. It is recommended for use on very brilliant days to cut out too brilliant a light, at the same time giving that sharp definition of object which the medium shade gives. It will be invaluable in goggles where a dimmed light is necessary.



PRACTICAL TALKS WITH THE PROFESSION



A Few Points of Current Interest

Several questions of interest to the profession have brought forth inquiries from time to time. Accordingly L. W. Bugbee has consented to amplify them as follows:

- 1st. Is a lens which is thicker in the center than on the edge a plus or positive lens?
- 2nd. Is a lens which is thinner in the center than on the edge always a minus or dispersive lens?
- 3rd. Will a meniscus form of lens having both plus and minus curves of same radius have any focal power?
- 4th. Will a meniscus form of lens having parallel surfaces have any focal power?



Example 1

The answers to these show results that are, to say the least, somewhat unexpected. For instance, the first question may be answered both "yes" and "no": that those lenses which have positive focal length are always thickest in the middle. Answering question

number two, lenses thinnest in the middle always have negative focal lengths. The converse of these statements, however, is not true for it is possible to design a lens which is thickest in the middle which has a negative focal length.

(See Heath's Geometrical Optics, 1895 edition, page 70, also Principles and Methods of Geometrical Optics by Prof. Southall, chapter on Lenses and Lens Systems.) See example following:—

Example No. 1. Example of lens thickest in the middle but having a negative focal length. Let r_1 = radius of first or convex surface. r_2 = radius of second or concave surface. t = thickness. μ = refractive index.

Condition is that $r_1 - r_2$ must be less than $\mu \frac{t}{\mu - 1}$ and greater than $(\mu - 1) \frac{t}{\mu}$. Let $r_1 = .0625$ $t = .005$ $\mu = 1.5$. $\mu \frac{t}{\mu - 1} = 1.5 \times \frac{.005}{.5} = .005$. $(\mu - 1) \frac{t}{\mu} = .5 \times \frac{.005}{1.5} = .00166$. $r_1 - r_2$ must be less than .005 and greater than .00166. Assume r_2 to be .0595 which fulfills the required condition. Let $D_1 = \frac{\mu - 1}{r_1} = \frac{.5}{.0625} = 8$ = the power of cx. surface. Let $D_2 = \frac{\mu - 1}{r_2} = \frac{.5}{.0595} = 8.4$ = the power of cc. surface. Now $D = D_1 + D_2 - .66 D_1 D_2 t$

$$\begin{aligned} &= 8 + (-8.4) - [.66 \times 8 \times (-8.4) \times .005] \\ &= -.40 - (-.22) \\ &= -.40 + .22 \\ &= -.18 \end{aligned}$$

Therefore our lens which is thickest in the center has an actual power of $-.18D$.

Question No. 2 has already been answered above.

Question No. 3. Will a meniscus form of lens having both plus and minus curves of same radius have any

power? Example 3.—Assume convex surface $D_1 = 20$ diop. Concave curve $D_2 = -20$ diop. thickness $t = .004$. $\mu = 1.5$

$$\begin{aligned} \text{As before } D &= D_1 + D_2 - .66 D_1 D_2 t \\ &= 20 + (-20) - [.66 \times 20 \times (-20) \times .004] \\ &= 20 - 20 - (-1.056) \\ &= 1.05 \end{aligned}$$

Therefore, our lens has a power of $+1.05D$.

Question No. 4. Will a meniscus form of lens having parallel surfaces have any power?

Assume convex surface $+17.00 D = D_1$ and concave surface $-20.00 D = D_2$.

$$\begin{aligned} \text{Then } r_1 &= \frac{\mu - 1}{D_1} = \frac{.5}{17} = .02941 \\ r_2 &= \frac{\mu - 1}{D_2} = \frac{.5}{20} = .025 \end{aligned}$$

For parallel surfaces the thickness, t , must equal $r_1 - r_2 = .02941 - .025 = .00441$.

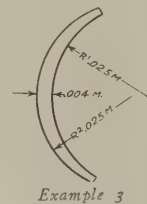
Now $D = D_1 + D_2 - .66 D_1 D_2 t = 17 + (-20) - [.66 \times 17 \times (-20) \times .00441]$

$$D = 17 - 20 - (-.99) = -3 + .99 = -2.01.$$

Therefore our lens has a power of $-2.01D$.

Deductions from these examples:—

1. Now we have seen that a meniscus lens can be made which will be thicker in the center than on the edge and yet have the effect of a minus lens.



Example 3

2. That a meniscus lens having radii of 1st and 2nd surfaces of equal length will always have the effect of a plus lens.

3. That a meniscus lens of ordinary thickness having parallel surfaces, that is, having $r_1 = r_2 - t$ will always have the effect of a minus lens.

We now begin to inquire how a meniscus lens having no power can be made?

Let us again refer to our formula $D = D_1 + D_2 - .66 D_1 D_2 t$. This formula will apply to any form of lens by simply observing the signs. Let us assume that D equals zero. Then we write our formula $D_1 + D_2 - .66 D_1 D_2 t = 0$.

Assume that we wish to make a meniscus lens of no power, D_1 , the convex surface to be $20D$, t , the thickness .005. What shall we grind for D_2 , the concave surface?

$D_1 + D_2 - .66 D_1 D_2 t = 0$. Substitute 20 for D_1 and .005 for t . We now have but one unknown quantity and write our equation $20 + (-D_2) - [.66 \times 20 \times (-D_2) \times .005] = 0$. Whence $20 - D_2 - (-.66 D_2) = 0$ and $20 - D_2 + .66 D_2 = 0$.

$$\begin{aligned} \text{Therefore } -.934 D_2 &= -20 \\ -D_2 &= -21.41 \end{aligned}$$

Therefore, if we grind $+20 D$ for convex side -21.41 for concave and make thickness .005 we will have a lens of no power. In other words the focus will be at infinity.

The above examples are of interest, showing as they do, the effect of the shape and thickness upon the effective power of a lens.



Example 4



More Efficient Use of AOCo Base Curves

We have received frequent and urgent requests for information outlining a plan for more efficient use of the different AOCo base curves, particularly with a view to obtaining the widest angle of vision possible with our Toric and Meniscus lenses, as regularly manufactured.

To go into this subject in a thoroughly scientific manner would take considerably longer time than is immediately available for a prompt answer. But for the purpose of supplying immediate and adequate information, the following figures from our lens department undoubtedly will be of assistance. It should be kept in mind, however, that they are only intended as approximations and not absolutely accurate. In the near future we expect to be able to supply figures theoretically correct, but in the interim feel sure the figures here quoted will be far more satisfactory than the present more or less haphazard methods.

Sph. powers. For convex up to +3 D use -6 base cx men.
convex from +3 D up, use -7.50 base cx men.

For Minus Rxs.

Weak powers up to -3 use 6 base cc men.
-3 to -8 use pcc +1.25 base.

If 3 base is obtainable it is preferable between -2 and -4.

From -8 to -12 use pl cc, concave side next to eye.

Above -12 use dcc. Pl cc can, however, be used up to -20 with satisfactory results, particularly in lenticular form.

For cylindrical corrections.

Use present +6 base for plain plus cyls. For plain minus cyls. use -6 base unless lens is to be a cement bifocal when +6 base can be used.

For sphero cylindrical corrections (+ $\odot$ +).

For spherical powers up to 1.50 and for any cyl. use 6 base toric.

For spheres between +1.50 and +3.00 and for any cyls. use the new 7.50 base.

For spherical powers stronger than +3.00 use the +9.00 base. If cyl. power is strong would suggest using the +7.50 base instead of +9.00 to avoid extreme curves which by some people are considered unsightly.

For - $\odot$ - Rx.

For minus spheres up to 2 D and any cyl. use -6 D base. If cyl. is not over 2 D, +6 base will be very satisfactory.

For minus spheres stronger than -2 D and cyls. less than -2 D, use +6 D base.

For minus spheres stronger than 2 D combined with - cyls. stronger than 2 D, use +3 base if obtainable.

If minus sphere is 8 D or stronger use flat sph. cyl. concave sphere next to eye.

To Grind μ 1.52 Glass with AOCo Tools Turned to μ 1.507

In our "Talks with the Practical Optician" are given rules for grinding glass of μ 1.507 with tools intended for use on glass of μ 1.52. In the same booklet are given instructions for grinding Kryptoks with tools turned to μ 1.507. These latter rules

apply to Kryptoks only and ensure extreme accuracy in Kryptok work. We have frequent requests for information in regard to the use of AOCo tools turned to μ 1.507 on glass of μ 1.52. By observing the following table, uniformly reliable results will be obtained.

Table for Grinding μ 1.52 Glass with AOCo Grinding Tools Turned to μ 1.507

Power of Surface Wanted		Tools to Use	Remarks
.12 to 2.00	Same	.75 to 1.37	polish trifle weak
2.12 to 5.75	.12 weaker	2.12 to 3.00	polish trifle strong
		4.87 to 5.75	" " weak
5.87 to 11.75	.25 weaker	5.87 to 6.87	" " strong
		9.00 to 11.75	" " weak
12.00 to 20.00	.50 weaker	12.00 to 14.00	" " strong
		18.00 to 20.00	" " weak

Example: If a 6.00 D surface of 1.52 is wanted use 5.75 - AOCo tool for index 1.507 and polish a trifle strong.

NOTE: Directions given above to polish a trifle weak or a trifle strong are simply to avoid increasing, through careless polishing, an error that otherwise is so small as to be absolutely negligible.

To use AOCo 1.507 Toric tools on glass of μ 1.52: Select tool required for the cylinder called for. Then consider the base curve as being 5.75, grinding the spherical side accordingly.

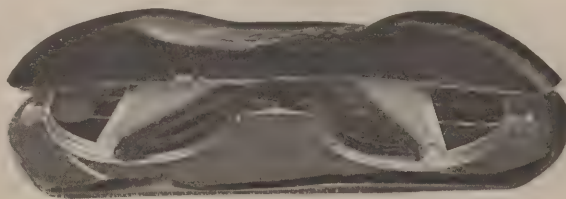
Example: With μ 1.507 toric and spherical tools grind +1.12 sph. $\odot$ +2. cyl. Toric surface will be +6.00 by +8.00. Now call the 6 base curve 5.75 and then the concave spherical surface will require to be -4.62. Consulting table for 4.62 I am directed to use a tool .12 weak and so grind the same with -4.50 tool which gives the correct result.

Here's Proof of What Japtol Will Do!

A New Jitney Story

WHEN "Along Comes Ruth" in a jitney and runs slap over it. This case was sent in to us after this experience. It will never be the same case BUT the glasses within were absolutely undisturbed and there you have the moral. You may say a jitney couldn't hurt anything but—don't get mixed up with one!

This experience all goes to show that Arthur J. Pratt was not kidding us when he assured us his department was putting out a Japtol case that will endure forever and without busting your purse strings to get it.





Kryptok Bifocal Lenses *Are Worth Nothing to You Unless*

COMPETENT equipment, workmanship and experience are employed in their manufacture. The same applies to any lenses.



*The
Preliminary
Inspection
for
Quality*

But here is a little illustration, by way of interest: Occasionally three of us get together around the dinner table. The subject generally turns to company business. One is from the Order Department, the other from Lensdale in the Scientific Experiment Department. Said the first on this day in question, "I tell you, we take more pains with our Kryptoks than any one else who handles them. I'm convinced of that!" Said scientific member, "*I know* we do; no one who has handled it knows that any better than I do."

Only a passing incident, and yet a revelation of the conviction of these fine points that exists within our organization. It merely illustrates the close attention we give to any lens work we take up and the thoroughness with which we carry it through.

We have competent equipment and workmen to start with. The crown and flint glass we supply them to work on is as near perfect as it can be. Before we use it we subject the glass to a severe test for index, color, clearness and temper.

We control the grinding of countersinks; all are of a uniform size and depth for a given blank.

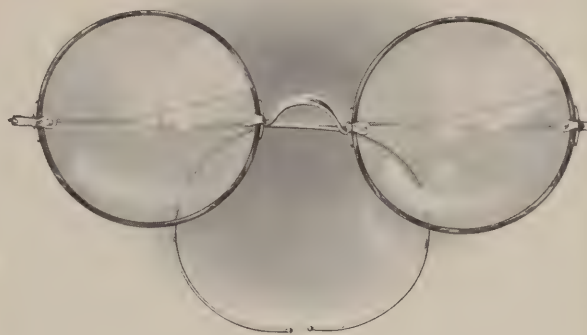
Our method of controlling the heat in the fusing and annealing processes is absolute. Results are identical.

In the last analysis every blank is given a rigid colmascopic test for molecular stress. This ensures you a perfect blank, clear and transparent, with every addition neutralized.

When you stop to consider all this care, it takes but a moment's thought to realize AOC Co blanks save you many dollars in time and labor. You know that you need not make an exhaustive test of the properties or grinding of the blanks—that has been done for you. Your time and labor is saved. Your confidence in our product enables you, therefore, to turn your attention to something else, or finish up your Kryptok work without delay. In time the saving you make amounts—from these little details—into the hundreds of dollars. Those who mistrust the blanks they buy in the meantime are losing time and money.

The Kryptok is a popular bifocal. We would not be living up to our reputation for skilled, careful workmanship if we did not turn it out to the trade as an excellent AOC Co Quality product. Nor would we be doing justice to the Kryptok. It deserves the best we have—and it gets it.





BIG MOTOR GLASS SEASON OPENS —

BUSINESS may be depressed but people buy automobiles and accessories more than ever. One of the biggest auto seasons every known was at the time of the 1907 panic. The demand for autos is larger than ever before. More autos—more dust. More dust, more danger—it all leads back to motorglasses.

To get your share of the big profits you must put in saleable lines. There is not a dead item in the AOC 1915 list. Styles and prices to meet all classes.

The Shelloid Motorglass here displayed is a new line combining the uses of auto protection with general defense against the sun's glare, dust and grit.

It has our famous Zylo rim front, is made in white metal and gold plated and possesses the look of distinction without the price. In some styles you get the cable temple, which has been the nation's great ear preserver.

Shelloid comes at present with a choice of three colors in glass—amber, fieuzal and smoke. Put in this Popular LINE—SHELLOID. Look over the following prices and interview your jobber.

Catalogue Number		PRICES		Per Gross.
White Metal	Gold Plated	Description		
RIMLESS EYEGLASSES WITH IMITATION SHELL RIMS				
8024	8124	Hoop spring X C 1 Sanitary guard mi-coquille amber, smoke or fieuzal lenses 40 mm. round . . .	1 Doz. In Box \$33.00	Individual Boxes \$40.20
	8125	Same, except drop shape eye . . .	46.50	53.70
8034	8134	Same, except with lenses 45 mm. round . . .	34.50	41.70
	8135	Same, except large drop shape eye . . .	48.00	55.20
RIMLESS SPECTACLES WITH IMITATION SHELL RIMS				
8084	8184	SS bridge, 47 bend, regular temples, mi-coquille amber, smoke or fieuzal lenses, 45 mm. round . . .	40.50	47.70
8084C	8184C	Same, except with Cable temples . . .	43.50	50.70
8094	8194	SS bridge, 47 bend, regular temples, mi-coquille amber, smoke or fieuzal lenses, 48½ mm. round . . .	45.00	52.20
8094C	8194C	Same, except with Cable temples . . .	48.00	55.20

Shelloid Glare Glasses are put up either in individual boxes, or one dozen in an attractive buff colored paper box, suitable for display purposes. The handsome imitation shell rims around the lenses lend a very distinctive appearance, which results in ready and profitable sales. With each dozen are furnished small attractively printed price tickets, giving retail prices per pair. Specify color of lenses desired in ordering.



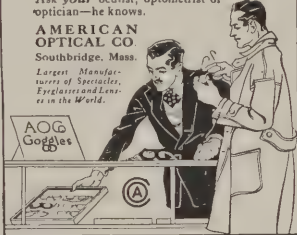
May Advertising Calendar


Last Quarter
6th day, 0h. 23m., morning


New Moon
13th day, 10h. 31m., evening


First Quarter
21st day, 11h. 50m., evening


Full Moon
28th day, 4h. 33m., evening

MAY MAGAZINE AD	Month Day	Week Day	Rises 	Sets 	Holidays	Weather	
					Anniversaries and Advice		
"Yes, the American Optical Company makes all our glasses. With our class of customers we cannot afford to use anything but the best quality of lenses and mountings. And we know that in all its big factories the American Optical Company maintains the same high standards of quality and accuracy that our customers expect of us in our own business." Ask your oculist, optometrist or optician—he knows. AMERICAN OPTICAL CO. Southbridge, Mass. Largest Manufacturers of Spectacles, Eyeglasses and Lenses in the World. 	1	Sa	4 40	6 42	MAY DAY { All magazines now out with AOCo advertisement. Enclose May AOCo blotter in sending out your monthly letters and bills.	Cold	
	2	S	4 39	6 43			
	3	M	4 38	6 44			
	4	Tu	4 37	6 45			{ Show May window card with seasonal display of AOCo goods.
	5	W	4 35	6 46	{ <i>Expect increased demand for AOCo goods.</i>	Warm Winds	
	6	Th	4 34	6 48			
	7	Fr	4 33	6 49			
	8	Sa	4 31	6 50	{ Start running May newspaper advertisement in your local paper.		
	9	S	4 30	6 51			
	10	M	4 29	6 52	{ <i>Prepare for rush of business on AOCo goods.</i>		
	11	Tu	4 28	6 53			
	12	W	4 27	6 54			
	13	Th	4 26	6 55	ASCENSION DAY		
	14	Fr	4 25	6 57	{ Order your AOCo June advertising helps now.		Warm Winds
	15	Sa	4 24	6 58			
	16	S	4 23	6 59			
	17	M	4 22	7 0	{ May lantern slide should now be shown in local moving picture theatre.		
	18	Tu	4 21	7 1			
	19	W	4 20	7 2			
	20	Th	4 19	7 3	{ <i>Much bigger business on AOCo goods.</i>		
	21	Fr	4 18	7 4			
	22	Sa	4 17	7 5			
	23	S	4 16	7 6	WHITSUNDAY		Warmer
	24	M	4 15	7 7	{ People begin to talk about your advertising.		
	25	Tu	4 15	7 8			
	26	W	4 14	7 8			
	27	Th	4 13	7 9	{ Your books show record business for May.		
	28	Fr	4 12	7 10			
	29	Sa	4 12	7 11			
	30	S	4 11	7 12	TRINITY SUNDAY—MEMORIAL DAY		
	31	M	4 11	7 13			



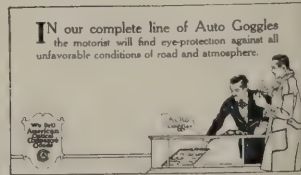
MAY WINDOW CARD



MAY NEWSPAPER AD



MAY LANTERN SLIDE



MAY BLOTTERS

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. IV

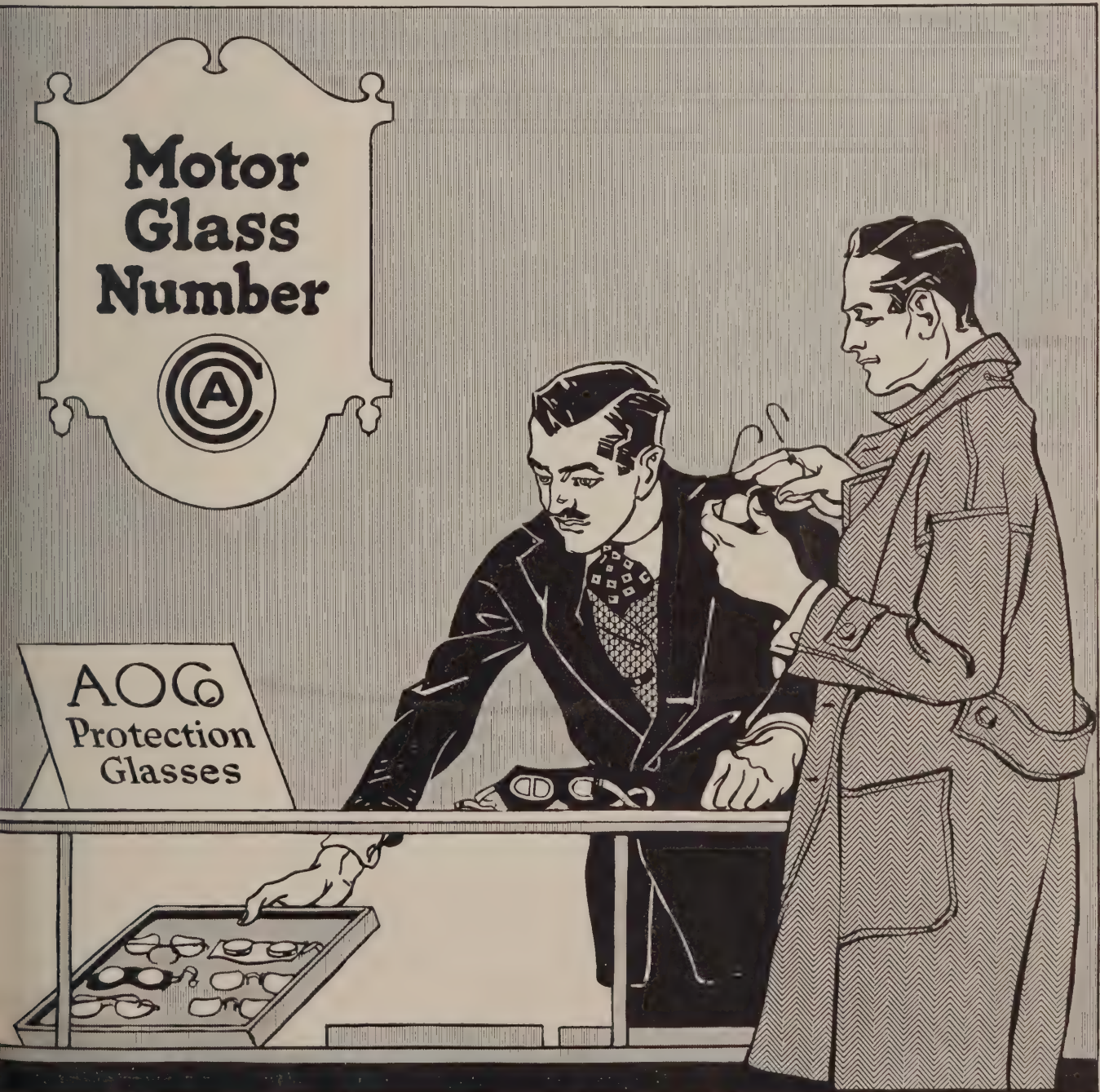
May, 1915

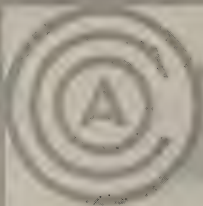
No. 2

**Motor
Glass
Number**



**AOG
Protection
Glasses**





No. 8056

If You Are Any Judge of Values—

Eyes and Bridge:

Our "Eyedeal" Motorglass is the most optimistic motorglass with pessimistic prices produced for some time. Read on!

This is something new, a combination which we do not believe can be duplicated for anything like the price. A highly finished Zylonite frame, with 45 mm. eye and a cleverly designed inset bridge which not only adds to the beauty of the frame but serves the useful purpose of keeping the eyelashes of the wearer away from the lenses.

*Lenses:
Screens:*

The lenses themselves are carefully selected mi-coquille amber. Gold plated screens of just the right shape to fit comfortably and keep out all the dust and dirt of the road, are attached to the eyes with our new invisible (patented) clincher joints.

*Temples and
Endpieces:*

Large comfortable gold-plated temples with a neat clincher end-piece add the final touch of "tone" and richness necessary to make this glass stand out from the general run of automobile eye protectors.

Cases:

We have put our Eyedeal in a number 1357 Enameled case; we are rather proud of this case, as we spent several weeks experimenting to get the soft mouse gray lining, and we think that we have hit it just right. The lining of dark gray velvet sets the Eyedeal off in magnificent style.

Low Price:

We are able to put a very low price on this glass with case: at \$12.00 per dozen and a retail price of \$1.75 to \$2.00 per pair, this makes a very profitable article to handle. Furnished in Amber, Smoke or Fieuzal lenses.

We are ready to make quick deliveries, but if we are any judge of values our stock will not last very long, so we advise you to order early from your jobber.

Price \$12.00 per doz. Beautiful gray lined Japtol patented self-closing case.

Amoptico



We Anticipate Every Want in Motorglasses

IT is notable that within recent years the manufacture of Spectacles and Eyeglasses as a protection against wind, sun, dust and glare, particularly for automobile use, has shown some important changes and developments from the types in vogue only a few years back.

In the earliest days of motoring, when the automobile windshield had not come into general use and roads were particularly muddy and dusty the motor goggle was a heavy,

stuffy and unsanitary eye-protector. It was trimmed with every variety of material such as cloth, leather, fur chenille or rubber, which was seldom cleaned. In appearance it so effectively disguised a person that playwrights vied with the manufacturer in encouraging its inroads on the historic mask and moustache.

The whole tendency since these experimental days, however, has been towards fewer and simpler styles. We now have light, good-looking, roomy spectacle types, and the lenses have grown larger so as to afford wider and clearer

unobstructed vision. The point has now been reached, in short, where the manufacturer is no longer groping in the dark as to the public's wants, but has an accurate knowledge of the best motorglass construction and design.

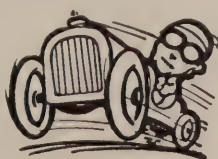
Another factor responsible for the change in styles is human vanity. This motive is coming to be more and more generally recognized as a governing factor in the purchase of all styles of spectacles and eyeglasses. The uncouth appearance of old style motor goggles is even now remembered by the public with distaste. Evidence of this lies in the fact that manufacturers are endeavoring to do away with the name "goggle" in favor of the more pleasing term Motorglass, knowing the mild prejudice the former excites.

The change in public taste, as the motoring public rapidly increased, has trended constantly towards the motorglasses that possess a smart gold, gold-filled or zyloware style, and at the same time can be easily cleaned and quickly removed. Many of

the former styles were annoying with their rubber or cloth headbands, which prevented quick removal, and disordered the hair.

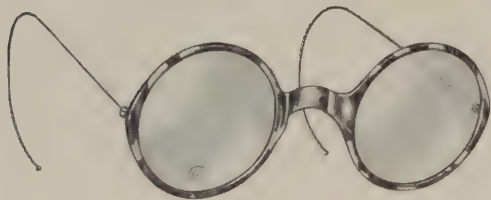
Consequently the motorist of today looks as well and appropriately dressed on the road as he or she does in the drawing room. The stylish, sanitary and easy-to-remove motorglass of today sits lightly and comfortably on the nose, fits softly over the ears and when not being used tucks itself snugly away in the pocket of coat or automobile door. The old motor goggle was a nuisance. The new motorglass is put on and taken off unconsciously—one seldom realizes it's there, because it causes no trouble, or annoyance.

The prevalent styles are essentially American, most of which have been designed or developed by ourselves. They may range in price from the most expensive solid gold frames, fitted with Crookes or Noviol lenses, down through gold-filled and our newest style—the Eyeddeal—to the





Amoptico



Roadster 8050

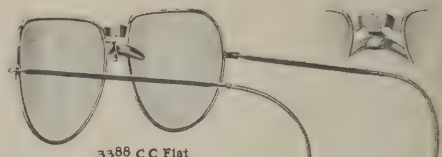
moderate priced, gold-plated colored set line, which includes the five styles, Overland, Eclipse, Roadster, Shelloid and Japtol.

The utility of this wide range of automobile and sun glasses extends beyond into the field of sports and outdoor pleasures and occupations where there is light or dust in abnormal quantities. The entire AOCo Protection Glass lines are simple, stylish and adapted to the means of people in all walks of life. The tremendous demand for our Popular colored set line indicates the growth and discovery of a new field, heretofore unrealized in its possibilities. People who never thought of buying automobile glasses before are now reached by this new line with its moderate price. The tremendous expansion in the automobile business with moderate priced cars is in-

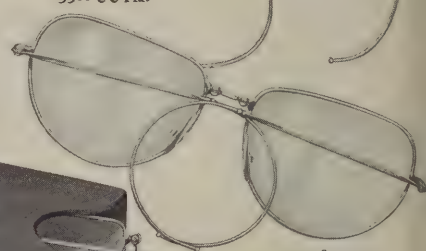
fluencing thousands who've never before been able to accumulate the money necessary to buy a motor car. This, among other things, has opened up the new

demand for motorglasses above referred to.

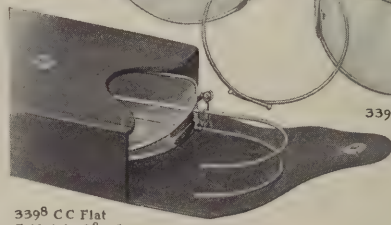
In the meantime, while the attention of the public has been centered on this new development—the Popular Line of colored set goods—the demand for high quality, gold and gold-filled goods has continued to increase in such lines as the Vogue, Kilglare and Speedwell, where workmanship, finish,



3388 CC Flat



3398 CC Flat



3398 CC Flat
Folded in 385 Case

Vogue Motorglasses

off the press. Send in your name and address now and we will mail you a copy when issued. In the meantime look over our newest design, the Eyedeal, on the inside cover of this issue.



No. 3348 Speedwell Motorglasses

quality and style are the first and last considerations, above price.

In following the trend of motor and motorglass development, therefore, we have been so consistently and progressively alive to public wants and necessities that today our entire motorglass line is second to none. It incorporates sound construction, workmanship, superior lenses, and every possible variety of style and taste: and then, when all is said and done, the AOCo Motorglass line is *complete*.

Who can claim a line as complete?

Within a few weeks our brand new Motorglass catalogue will be

CLIP THIS OUT AND SEND IN TO THE AMERICAN OPTICAL CO., PUBLICITY DEPT., Southbridge, Mass.

GENTLEMEN:—

Kindly place my name on your list for one of your new Motorglass Catalogues, when issued.

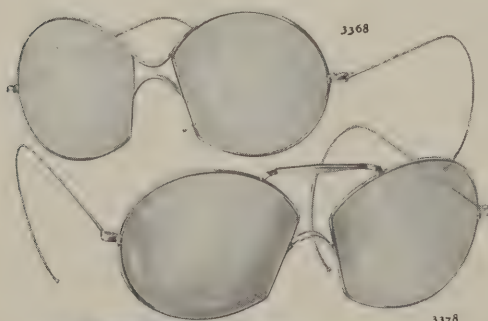
Name

Street Address

City

State

Jobber



3368

3378



3368
In Case No. 367

Sportsmen's Glasses





Amoptico



Sir William Crookes Glass Stands the Test

“The Proof of the Pudding”

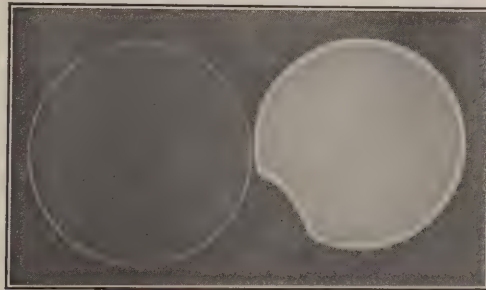
New Haven, Conn., Feb. 13, 1915.

American Optical Co.,
Southbridge, Mass.

Gentlemen:

Enclosed you will find proof of Crookes Glass printed
in our photographic department.

You will see by the light print that Crookes Glass
holds back nearly all of the chemical rays.



Ultra-Violet Rays affect Photographic Paper. Comparison, showing how they darkened one through white glass and how Crookes Glass stopped them, leaving paper white.

The proof of the pudding is in the eating; we are now
making two pairs for Professor of Yale Uni-
versity, to take on his South American Expedition.

Yours very truly,

The Fritz & Hawley Co.,
L. Wilhelm, *Treasurer.*

NOTE:—Violet, as well as ultra-violet rays, affect the paper, but to a lesser and slower degree. Consequently, to reveal effect of ultra-violet, expose paper no longer than one second.



Amoptico



These Handy Fits-U Tools Speed Up the Shop Work

WE have now added these useful Fits-U Assembling Tools and Pliers to the long list of handy tools which we already manufacture. If you have occasion to work on fingerpiece mountings you will find these tools invaluable, not

Fig. 2) you hold the bridge between the fingers of one hand; guard and arm can then be quickly and easily screwed to the bridge. By pushing the tube or long collar forward slightly, the tool can then be released from the guard. After securing

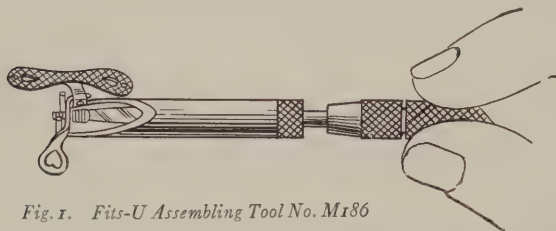


Fig. 1. Fits-U Assembling Tool No. M186

because they represent anything startlingly new, but because they afford that neat and ready assistance that makes work move along more smoothly and easily.

Fig. 1 shows the Fits-U Assembling Tool No. M186 for assembling fingerpiece mountings or replacing springs and guards on fingerpiece mountings. The practical usage of this will be many times a day—if you have it you'll not have to worry; if you lack one you'll be annoyed for the want of a handy instrument to accomplish an object. The clamp of the assembling tool holds the screw, spring and guard by spring tension in the tool so that there is a distinct saving in time and a consequent relief from annoyance. The screwing of spring and guard to the bridge is then quickly accomplished, as in Fig. 2. Here (in

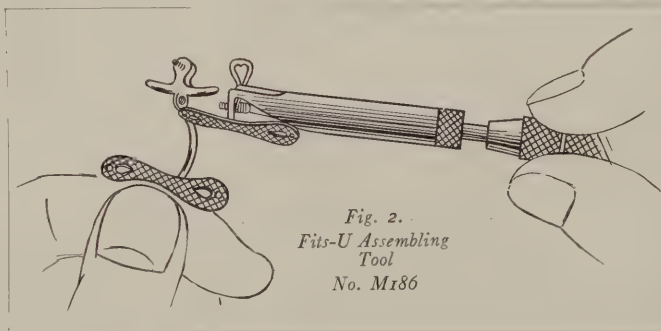
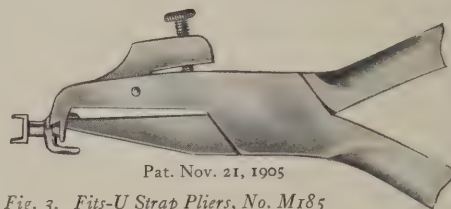


Fig. 2.
Fits-U Assembling
Tool
No. M186



Pat. Nov. 21, 1905

Fig. 3. Fits-U Strap Pliers, No. M185

the spring to the bridge the work is completed.

Our Fits-U Pliers, No. M185, are designed for widening frameless straps more than the ordinary amount, but in general should be used for fitting straps to all lenses, and widening and narrowing straps on all regular work.

1. Turning the thumb-screw back allows the adjustable jaw to open wide. 2. Then insert the lower jaw in the strap and bring the upper jaw with notches down on edges of strap ears. 3. Adjust the thumb-screw to allow for necessary widening of strap. In making a

narrow strap wide it is advisable to do so by turning back thumb-screw and closing pliers, a small amount at a time.

Fits-U Assembling Tool No. M186 . . .	\$1.25 net
Fits-U Strap Pliers No. M, Adjustable . . .	2.50 "

You Will Never Know What Welcome Is

Until you visit our San Francisco offices, where we have endeavored to provide every facility for your comfort and convenience.

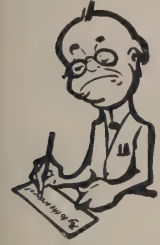
We have urged you by individual invitation to drop in on us at the Exposition. We now reiterate our earnest desire to welcome you, your families and relatives at our offices.

You will find our Mr. SMALLEY and staff the best little hosts you ever saw! So don't forget! The Exposition! AOCO Offices! And a big time. We're looking for you.



You Win Your Bet—The Whole Family Gets Into Amoptico

READ THIS! No home should be without it! Everything from "Asepsis" to Billy Sunday.



Gentlemen:—As we have recently opened a branch store at 1008 East 163rd St., would be pleased to have AMOPTICO sent to that address. It is now sent to our main store and I get it after its contents

have been devoured by the staff there. By this time it begins to resemble an over-worked dollar bill, so, to be consistent with my ideas of asepsis, I would prefer to get a copy of it right off the bat. Would also be grateful to you for window cards and for the transparency for the shop door window that your editor writes so feelingly of. "We sell American Optical Co. Goods." I find your familiar geometrical monogram on all our stock.

The people in the neighborhood from which we draw our patronage are educated, inquisitive, curious and well-informed as to the qualities of general merchandise and I want to feed those laudable characteristics with informing literature respecting optical goods. Our show window is ideal for display purposes and my idea is to change the character of the sign cards, etc., about every ten days—a sort of bulletin service in which all of the newest designs and wrinkles in our trade specialities will be exposed to that

fierce north light that turns glass green—long green.

I recognize the value of your regular monthly advertising service and want to sit in the game.

A Few Bouquets

Your publication AMOPTICO is the most interesting and instructive piece of optical literature promulgated at any price, cutting out, as it does, the irritating statistical, actinic short waves of the ordinary, superannuated, dry-as-dust, near-scientific optical bunk and eliminating the infra-red of the sensational yellow (paradox) journal style of alarmist propaganda.

Your goods, even the cheaper colored grades, such as the "ECLIPSE PROTECTION GLASSES" have a clean virtuous appearance, indicating that they belong to a good family and can be trusted in the dark. In this connection, consideration must be given to the fact that their fine, smooth finish imparts a pleasing and satisfying "feel."



I think I have had intimate relations with the whole coterie of nick-named finger piece mountings and a speaking acquaintance with most of them unfit for publication. At one time, their chief value seemed to me to be along the lines of physical culture as an athletic appliance for the muscular development of the

digits. Since the advent of the "FITS-U" mounting with the "Schwab" guard, I have become converted. My wife calls it the "BILLY SUNDAY" mounting. She says I use less "language" now and she is not afraid to have me around when the minister calls. Seriously, I think its simplicity of construction, coupled with its effective utility, makes it the masterpiece of eyeglass mountings and any nose that cannot wear it does not deserve to be called a nose. A wart or a pimple is sometimes presented to me to fit nose glasses upon with the information that its owner's sister or cousin or somebody else can wear eyeglasses with no difficulty and "her nose is no better than mine."



A little powdered rosin, applied to the guards, will help some in a case like this. I have some doubts as to the ethics of this practice, but it appears to be the only way unless you have the nerve to tell a woman that she has a chasm where her bridge ought to be and that her sentence is to wear spectacles for life.

I hesitate and doubt my ability to suggest any improvement in the conduct of your esteemed trade paper, but I must protest against the publication, in the March number, of the disturbing information that radium changes the color of diamonds to sage green. Owing to the nervousness of my wife on this subject, I have been obliged to keep my stock of radium in the coal cellar and my diamonds on the roof.

MAYER OPTICAL CO.,
(Signed) FRANCES HOFMAN, MGR.

Appel's New Idea

Our article on "Fingerpiece Eyeglasses with Extension Posts for the 'once in a while' patient" in the November AMOPTICO has brought us an interesting and valued suggestion from W. W. Appel & Son of Lancaster, Pa. It should be of interest to the trade.

We showed at that time the necessity for extension posts in extreme cases where two eyes were at unequal distances from the bridge of the nose. Varying

lengths of posts were necessary in such unusual cases to center the lens properly before the eye.

In several instances, say Appel & Son, where extension posts were inconvenient by reason of time and adjustment required, or conspicuousness, they adapted the lens to the difficulty by cutting its major axis longer. They say, for instance, "if 41 x 32 mm. gives the correct P.D. on the right eye, but the left would need an extension post, we use say a 45 x 32 mm. lens, which is less noticeable than the post."

This way obviates the necessity of using the extension posts in some instances, although in general practice they find occasion to use extension posts quite frequently.

Trade inquiries wonder why we do not make more than one standard length guard post for our Varsity eyeglasses. We are ready to make shorter lengths on order, if desired, but you know it is a very simple matter for a clever shop man to cut off, shorten and re-solder long posts on special occasions.



us

Amoptico

you



METAOPTICS

NOTE: This is the first of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff will endeavor to make these articles simple, and interesting to everybody from month to month.

What Is Light?

LIGHT is a form of wave motion originating in some centre of disturbance such as the sun, and traveling from that centre of disturbance in minute waves and at enormous speed in every direction.

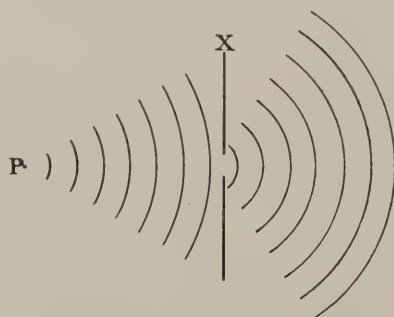
Let us take a simple concrete example. Imagine a still pond of water and drop a small pebble in it. What happens? A succession of waves or ripples spread out from the centre of disturbance, yet the water itself does not move because, if you throw in a piece of cork it will float quite stationary, thereby proving that the wave motion of the water is merely a disturbance on the surface, traveling equally in every direction. The sun, then, is the centre of disturbance. We have at present only a vague notion as to what the medium is that carries this disturbance; we call it the ether.

Let us go further and examine the properties of these waves. If we put an obstacle to the waves in our pond they seem to go around the obstacle and meet behind it, whereas if we put an obstacle in the path of light waves they do not apparently go around the obstacle but the latter throws a sharp shadow. But after all it is only a question of the relative size of the obstacle; if you build a big breakwater in the sea, you get still water behind that breakwater, in that sense the breakwater is throwing a shadow. In other words you must have some obstacle comparable to the size of the waves.

Now light waves are excessively small, and if you have an excessively small obstacle in their path it is at once seen that the shadow of that obstacle is not sharp, but fuzzy; and if the source of light be a point, the shadow of the obstacle is distinctly seen to have light directly behind it. In other words the waves of light have been able to creep around the obstacle.

Now there are two important principles which must be distinctly understood in order to grasp the properties of light

waves. The *first* is that waves all march at right angles to the line of their own front. That is, exactly the same way as a rank of soldiers marches straight forward in the direction square to the line on which it has been dressed. The *second* principle is that every point of any wave front may be regarded as a new source or centre from which waves will start forward in circles. In the sketch imagine P as the centre of disturbance. If there is placed a screen, X with a hole in it, in the path of the waves from P, all the wave fronts that come that way will be stopped or reflected back except that bit of each wave front that comes to the gap in the screen. That particular bit will go on into the space beyond, but will spread at equal speed in all directions, giving rise to a new set of ripples which will be again of circular form and having their centre not at P, but at the gap in the screen. The distance from



the crest of one wave to the crest of another is called a wave length. This distance is, strictly speaking, the width of the wave, but it is always referred to in scientific terms as the wave length. If ordinary light were composed entirely of one wave length there would be only one color to that light, but as a matter of fact there are thousands of waves of different lengths in ordinary light, so there are thousands of different hues or colors. It is a fact that these different sized waves affect the eyes differently, hence the reason that we are able to see colors.

By properly reasoning out the wave theory of light, the law governing reflection and refraction and the polarization of light becomes very simple. We have mentioned before that the speed of light is very great and in fact it is almost too great to grasp. Supposing you count ten to yourself very distinctly and take the time it will take in counting that ten; supposing it is about $5\frac{1}{2}$ seconds, light would have traveled in that $5\frac{1}{2}$ seconds just over a million miles. In other words it would have had time to go about 40 times around this earth. If then you try and imagine an express train going at 60 miles an hour and keeping that speed up right along, and going around the earth, it would take that train somewhere around 23 months to cover that distance. We have mentioned too, that the wave lengths of light are very small and it is almost equally difficult to grasp the size of these wave lengths. If you take a human hair as being about 1-1000ths of an inch in diameter you could pack about 33 of the longest kind of wave lengths of light within the diameter of that hair, while you could pack 250 of the shortest kinds of wave lengths in the hair.

That light had this enormous speed was accidentally discovered by a Danish astronomer, who found that certain calculations with regard to eclipses were always about eight minutes off and he concluded that this was due to the time taken by the light to travel to him from the sun.

We have no mechanical form of motion that compares with light in speed, but we have many objects thinner than wave lengths; gold-leaf for instance, has been made as thin as 1-100,000ths of an inch, the film of a soap bubble must be thinner still, and lines have been ruled on glass and metal as many as 30,000 to the inch. When we come to examine light with articles which have some relation in size to a wave length of light, we get some beautiful and curious results which will be followed out in succeeding lectures.



Speaking of Gold-Filled Are You Perfectly Satisfied?

IT is singularly and in some ways unaccountably true that a dealer will invariably specify distinctly the quality of the *solid* gold goods he buys in a way that will leave no question in the mind of the wholesaler whether 10k or 14k goods are wanted. And yet he will be seemingly indifferent to the quality of his goods in purchasing gold-filled wares.

It is a simple matter to guard oneself on this point, and yet many do not do so probably because there is no general appreciation of the fact that in the three karats of gold-filled stock, viz., 10k, 12k and 14k there are made several qualities or proportions which have a bearing upon the life of the goods that is even more important than the karat of gold used. It matters little what karat it is if there is not enough gold to properly cover the base metal sufficiently to resist wear and abrasion.

Through long experience it is now generally conceded that for the most satisfactory results the actual gold covering should be at least $\frac{1}{10}$ of the total weight on any given frame used under normal conditions. Whether this gold be 10k, 12k or 14k is a matter that can best be settled by the dealer himself from his knowledge of local conditions. It is also a generally accepted fact that gold alloyed to 14k is as fine as can be worn and still retain the necessary stiffness and resistance to wear, and that 10k is as low as is practical to work into gold-filled stock with satisfactory results.

In making gold-filled spectacles it is frequently found practicable to cover those parts most subject to wear, as Bridge and Temples, with a thicker coating of gold than is used on the eye wire, end pieces and straps. Sometimes, for instance, Bridge and Temples will be $\frac{1}{8}$ gold, with other parts $\frac{1}{10}$ or thereabouts, so that the entire frame will assay $\frac{1}{10}$.

The important thing that we wish to bring out here is not that you should use this or that quality and karat, but that having chosen what you want *you may be able to identify it after you get it.*

Do you know what you are getting for your money when you buy gold-filled goods? There are only two ways of being sure: to either have a sample frame assayed, or to depend upon the manufacturer's quality marks for identification.

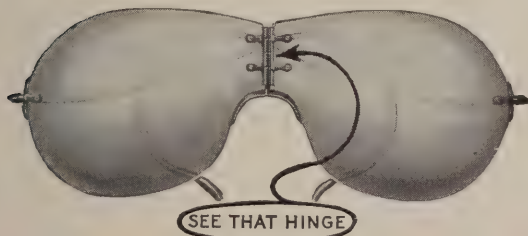
To protect your interests in buying AOCo Gold-filled wares we mark the quality on them, and for your own protection you should look for these marks.

Keep in mind the mark given that represents the quality of the goods you ordered; and when your shipment or prescription arrives look on the under side of bridge or spring for the AOCo Quality Mark.

Write the Publicity Dept., for Booklet A38 showing various quality and trade marks. This will assure you of your always obtaining AOCo quality goods.

THE AUTOGLAS

Trade Mark, Reg. U. S. Pat. Off.



(Patented May 2, 1911)

IN the AUTOGLAS, illustrated above, the special feature is the hinged center piece, which, together with the shape of the lenses, permits this eye protector to fit the curves of the face, thus excluding all wind, dust and flying particles, and yet affording perfect ventilation from the side.

Owing to the curve that this gives to the whole protector, and to the fact that the lenses themselves are of curved or deep meniscus form, this complete protection is given, and at the same time, the vision is absolutely unobstructed.

The lenses as regularly supplied are a light shade of amber, and are perfectly surface ground and polished; the same as the bent spectacle lenses.

Besides its wonderful adaptability in the plano meniscus or no focus form for the use of all out-of-door people, it is peculiarly adapted for use in the prescription form, with wearer's correction ground into the lenses.

The AUTOGLAS may be procured from all wholesale houses.

An Optical Humidor

An optical acquaintance sprung a new one on the train last week. He offered us a cigar—not that this was novel—from a row of ten standing up proudly within one of our old style paper-board spectacle cases. The cigar dealers know a good thing! Get into the tobacco business; we'll back you.

Send Your Full Address

Occasionally a dealer changes his address, or intends to, and neglects to note it in request for his imprints.

They will, therefore, confer a favor and save occasional mistakes if each request for additional matter includes the *full* address. We can then check up with our list constantly.

KeeLock Is Perfect Because It Answers All Criticisms of Screwless Types

KEELOCK will earn its own way. No amount of argument, however subtle, would convince you that this is the most perfect, inconspicuous screwless strap unless it possessed superior merits of its own.

KeeLock will be recommended by the trade, not upon somebody else's say-so, but strictly on the intrinsic merit of the mounting. If this mounting will not stand the most difficult tests, nothing we can say will help it. But we believe it will and submit reasons for our conviction.

In the first place the AOC Co. KeeLock Strap is the product of necessity and common sense. It grew out of the trade-wide demand for an inconspicuous strap that would hold.

Every factor in its construction is the product of hard reasoning. The several existing styles of so-called screwless mountings either sacrifice appearance to holding power, or holding power to appearance. KeeLock claims both advantages at once—it is a beautiful, inconspicuous strap with a holding power equal to any now on the market. It should satisfy the most exacting critics.

To accomplish this the AOC Co. KeeLock strap was constructed

on the common-sense principle that it is infinitely better to reduce the size of the glass-covering surface of the strap—making it inconspicuous—and at the same time gain very materially in strength by slotting the lens. Into this slot a key, or wedge, is inserted and so cemented that it is impossible to pull it out—hence we have the KeeLock. Illustration No. 1 shows the slot, which, unlike a drilled hole, affords no risk of breakage while mounting. There is no pressure; between the unyielding metal and the brittle glass is the film of cement.

The KeeLock strap is much shorter and smaller than the regular screw strap. By ingenious design it is formed so as to reflect light from only one of its beveled sides at a time. This makes it appear even smaller than it is.

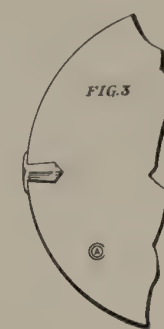
A careful examination of the strap reveals its clever and ingenious patented construction. (See Illus. Nos. 2 and 4). Note how the tiny key is made with a little shoulder at one end of the slot and a tapered wedge at the other. This provides for absolute alignment of the lens. The cement settles, forming another wedge behind the metal wedge head, making it impossible to pull out. Furthermore, beveled arms of the strap, the outer edges of which touch the lens surface, are hollowed out, allowing another recess for the Lenstick cement. A maximum amount of space for Lenstick is thus provided. The inside of the slot is left rough or unpolished so that

the Lenstick adheres with extraordinary tenacity. The whole mounting is, therefore, absolutely sound, rigid, and in line and answers all criticism of prevailing types of so-called cement mountings.

While the straps are smaller and shorter than the regular Rimless construction, yet they are just long enough to completely cover the ordinary screw hole in the latter, so that if necessary old lenses or drilled lenses from your regular drilled lens

stopped automatically. The process is completed in a twinkling. Adjustments are provided for grinding above or below center when required. Two machines of this type are ready—the one in the illustration for the shop that has its own power; the other a beautiful, compact little machine complete with an electric motor, which can be attached to any convenient electric light socket.

The second operation, that of



The cementing of the KeeLock strap to the lens then proceeds rapidly and simply. A Lenstick Tablet is inserted in the strap and slot and each heated until the Tablet bubbles slightly. Then the two are pressed firmly together. Any excess Lenstick can be removed around the edges immediately in the usual manner prescribed by experience with screwless types and the best methods found available in shop usage.

The entire operation of slotting and mounting is possible, by our simple machines and accessories, in a shorter time than ever before. Simplicity is the one great KeeLock operating advantage.

Standing out above all other features is the beauty and style of the KeeLock. Nothing in Rimless goods has ever been made approaching it in handsome appearance. Behind it we have put every ounce of Quality at our command.

We commend it to your most exacting and sober judgment. If you find it stands on its own merits, possesses beauty, simplicity, adaptability to your present drilled lens

stock and demonstrating or advertising possibilities, for all of which we commend it, then KeeLock will have earned its own way. If there is anything in a name KeeLock and the American Optical Co. should carry you far toward absolute confidence in this invention. We have not given you a just-as-good product. We have produced the Best and our appeal is solely to those who want Quality goods, or can be

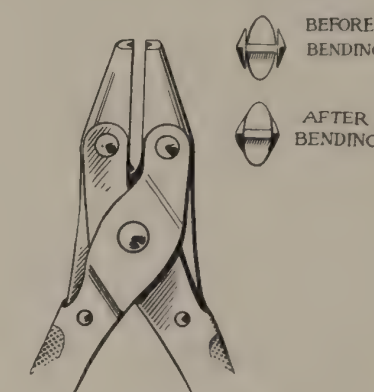
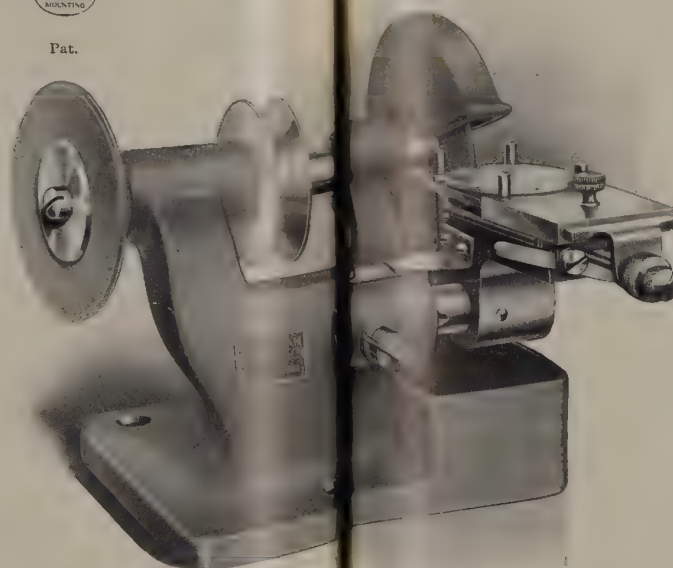


Fig. 6. Pliers for Narrowing Strap

persuaded that they are the only solid investment. Investigate the KeeLock through your jobber who will quote prices and give you complete information. The verdict rests with you.



(Patent Applied For)

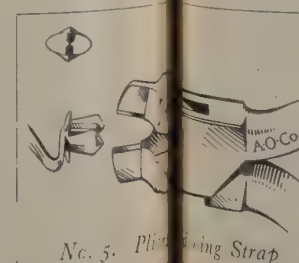
Slotting Machine

stock can be used simply by slotting up to the hole. This makes the KeeLock universally adaptable to all popular styles of rimless mountings.

The first operation, slotting the lens, is extremely simple. The little machine here illustrated has a thin corundum wheel. The lens is placed on the platform between the four posts automatically centered without delay; being adjusted to the same depth of slot for all ordinary lenses, is pushed gently forward until

mounting, is likewise simple, necessitating one pair of pliers for widening the strap, one pair for narrowing and an alcohol lamp. The Lenstick Tablets which we've produced are new and easier to handle than the powder.

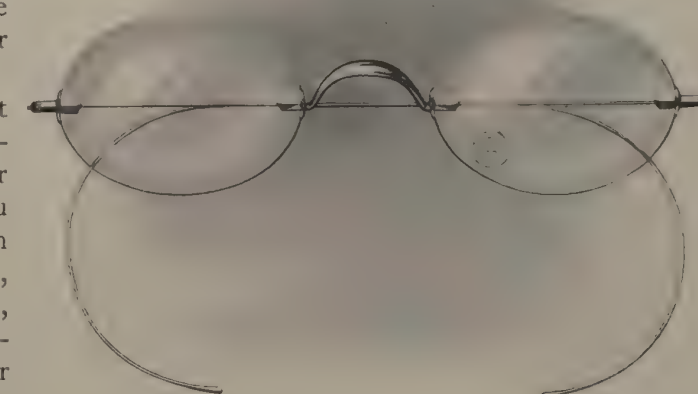
The special wedge, which so insures the firmness and rigidity of the KeeLock, makes necessary the pliers. To widen the strap to fit a thicker lens the pliers (see Fig. 5) crimp the wedge and the strap expands without injuring the wedge or outside



No. 5. Pliers for Widening Strap



(Patented)



(Patented)



Amoptico



What Our Chemical Engineers Found in Lenstick Tests

This reputable firm says of Lenstick:

A. D. LITTLE, President
H. J. KILMER, Vice-President

Please address all communications to the Company

L. MORG, Treasurer
- F. WOODS, Secretary

Arthur D. Little, Inc.
CHEMISTS AND ENGINEERS
93 Broad Street

CES-8

BOSTON February 23, 1915.

American Optical Company,
Southbridge, Mass.

Gentlemen:

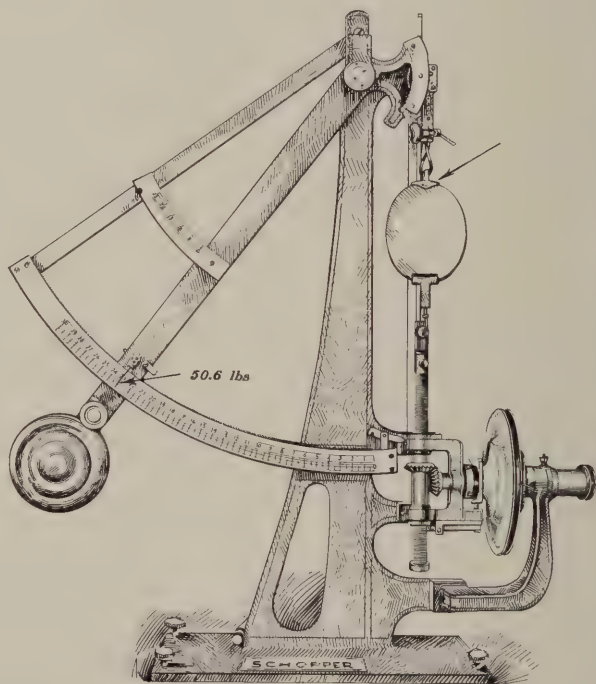
We have made a series of careful tests to determine the breaking strain of the Lenstick cement used to unite the metal pieces to the glass lenses. Our final results were obtained on the Schopper tester, a device in which the article to be tested is put into the machine, power applied and a weighted lever lifted along a graduated arc. When the break occurs, the number of kilos, or pounds, is read directly on the graduated arc. We were able to reproduce results of the following order with the utmost ease: 48.4 lbs. - 46.2 lbs. - 55 lbs.

Our mechanical engineers assure us that this particular testing device is more reliable than any extemporized way of hanging weights on the suspended article. We therefore give you the figures obtained on this machine, which is in daily use with us for testing tensile strengths.

Respectfully submitted,
ARTHUR D. LITTLE, INC.

By *Chas. E. Swett*

Arthur D. Little is one of the most widely known chemical engineers in the United States. Of him the March *System* says, "He made an analysis of the German Coal Tar Industry before the National Chamber of Commerce, which cleared many misconceptions and pointed out how America can utilize industrial waste."



Southbridge Notes: From Soup to Nutts

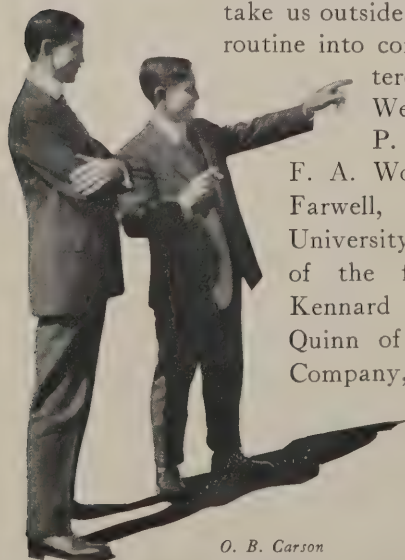
We have been favored recently with visits that take us outside the dull pale of routine into cordial personal in-

terest in the visitors. We refer to Prof. J. P. C. Southall, Dr. F. A. Woll, Prof. H. W. Farwell, all of Columbia University, and B. W. Nutt of the firm of Strong, Kennard & Nutt, I. W. Quinn of R. H. Macy & Company, New York, and Dr. Wm. B. Needles of Kansas City. B. W. Nutt we attempted to trim on the local

alleys, but the S. K. N. Demonstrator bowled us even, two strings apiece; occasionally you could hear a pin drop!

After a long tour through our factory we induced Prof. Southall to address the department heads and employees, which meeting was attended by approximately one hundred. Dr. Woll also spoke on the evolution of the eye, but the general talk centered around the great opportunities opening up in the profession.

Dr. Needles is our most recent visitor, coming to us from Springfield, Mass., where he addressed seventy-five members of the Massachusetts State Optometrical Society. From long acquaintance we were able to dispense with formalities and take Dr. Needles on a rambling tour of the factory, during which you see O. B. Carson pointing out to him our new ball field from the factory roof. He concluded his day's visit with a lecture to our employees.



O. B. Carson
Showing Dr. Needles a High Ball



Amoptico



Amoptico

Reg. in U. S. Pat. Off.

Vol. IV May, 1915 No. 2

Published Monthly by
American Optical Company
1833-1915

Channing M. Wells Albert B. Wells
President Treasurer
J. Cheney Wells
Vice-President and Secretary
General Offices and Works
Southbridge, Massachusetts, U. S. A.



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Chicago 5 S. Wabash Avenue
San Francisco 140 Geary Street
European Agency,
American Optical Company, Limited
39 Hatton Garden, London, E. C.
Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers
Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Automobile
Goggles, Lenses, Spectacle, Eyeglass and
Goggle Cases, Optical Machinery,
Tools and Supplies, Etc.
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Why Worry?

SO many of us lay too much stress on what the other fellow is doing, instead of going right at our own little wood-pile and sawing to beat the cars. If a new man opens a shop up the street, why get into a state of panic? Isn't it a pretty good sign that there is good business in sight. It usually works out that way too. Don't spend your time between worrying and predicting to your customers how long the new arrival will hold out. Get a broader slant on the real facts. Several optical shops quite near one another make an optical center, figuratively speaking of course. Ever notice how the automobile concerns accumulate in one part of the town? People know that certain localities are centers for

optical work; that's good business for the whole bunch. When one or two big optical stores moved off 23rd Street a few years ago and established a new community on 42nd Street, the fellows who were left thought they would have a gold mine. But the wise man changes his mind, and also his location. Tag along with him if you cannot lead the parade. Help him form a new optical center and grow with him. It's good business for both.

Don't worry about the other fellow's prices. Very few people go shopping for glasses. If they did you couldn't hope to hold them anyway. If anybody can get \$3.00 for a FITS-U mounting you can. Your goods are worth it. Put 50 cents worth of salesmanship behind them and prove it. Any man can sell goods at cut prices. The live, level-headed, thinking man gets the business at a living profit, gives good honest value in service, and merchandise, and holds his customers.

Why worry?

Speaking of Quality

Says our Superintendent at Lensdale:—

"An incident occurred here last week that may interest you.

"We received 3 lots of lenses from customers complaining of the quality. All three complaints were referred to me, and upon investigation I find the lenses were not ours but represented the output of competitors.

"Sometime ago we also had some of a competitors' lenses sent us with the expressed desire to get our opinion as to whether or not they really were the quality lenses claimed for them."

—H. W. HILL.

*We Wish You were Nearer,
Australia*

Feb. 19, 1915.

American Optical Company,

Gentlemen:—Your very fine catalog arrived safely and accept my sincere thanks for same. I will find it very valuable. It is the most beautiful thing I have ever seen in the shape of a catalog. I imagine it cost a large sum to compile it complete with all its photographs. However, it does a firm a great credit to be in the position to give such to its clients. Personally, I have found your goods and tools perfection, and I can't say more than that.

I have been a practical man for sixteen years and know something of Optical tools. Hope some day to have a complete set of AOCo machinery.

Thanking you again and wishing you great prosperity, I remain

Yours truly,

Signed—CECIL H. THOMAS,
Melbourne, Australia.

*Yes! But What if HE Could
Speak?*

Gentlemen:—

Our AOCo man suits us fine. He certainly gets attention, most of it favorable, *though some make remarks about his complexion.* However, he sells the goods, that is what interests us.

F. H. GALLIN,
Meyer Optical Co.,
Stockton, Cal.

Carsonisms:—
"Quite an Oval-
ex Spring we're
having!"





Our Painstaking Care with Kryptoks

A FEW weeks ago we had on hand several thousand Flint glass plates about 4 inches square, which were purchased for moulding into Kryptok buttons. They had, however, been laid one side because the refractive index of the lot was rather mixed; in fact by preliminary tests on several dozen of them it was found that the index ranged from 1.616 to 1.620. However, it was figured out that it would be worth while to test all these plates singly and sort them out so that special curves could be put upon them and our Kryptok Blanks would be correct. Accordingly, these plates were all surfaced on one side and had one edge ground and polished and were then all tested correct to the fourth place of decimals and sorted out into their respective numbers.

As you can imagine, this had been a painstaking job, as the surfacing and edging of the plates has not been of any assistance towards the final production of the Kryptoks, because the plates have to be cut up and moulded into little buttons. However, as each plate



Lenses \$1.50 per set with Card No. 18W2

makes several buttons and the Scientific Department has already passed on some 2,200 plates, you might think that we have accumulated a large stock of this Flint, but as a matter of fact, it will (because our Kryptok business has grown to such a magnitude) only last us a few weeks at the outside.

The point of all of which is that we, as manufacturers of Kryptoks, will go to great trouble and expense to guarantee Kryptok accuracy.

New Kryptok Display Card

The above facts being true, the best guarantee of success in selling Kryptoks lies in the AOCo. monogram on this

brand new orange and black display card we're putting out. The card is made of beautiful, heavy stock with spaces into which the lenses may be inserted. Let this card help you sell part of those 1,000,000 Kryptoks in '1915. Complete set of demonstrating lenses, with card, \$1.50.

When We Tell You That Lizard Grain Cases Captured

THE trade, not only here but particularly abroad, you will be convinced, will you not, of its superior merits and our optimistic forecast?

The beautiful illustration does not exaggerate its appearance one whit, but it fails to reveal the qualities of hard wear, sturdy construction and superior vulcanizing pro-



cess of mounting the leather that makes it well-nigh equal to genuine lizard. Our new rust-proof cement holds the leather to the case with tremendously strong adhesive power. No skiving of edges is necessary.

We are ready to supply this grain in our Water-grain and Vicar lines.



Amoptico



Just a Few of Our Worthy Representatives Whom You All Know

At times one suffers the keen pleasure of trying to tell a story of service and personality which words cannot express. The American Optical Company is identified with a score of such men.

W. H. Hurlburt has spent his life in the optical business and won a rare host of personal friends throughout the trade, though he has only spent 15 out of his 50 optical years with us. A man whose pleasant solicitude, old-school courtesy and sterling



W. H. Hurlburt

abilities brought him to us and have firmly ensconced him ever since in the affections of the company, and the trade. He is still the Dean of our outside representatives and enjoys the respect and warm regard of those who appreciate loyal devotion to the

best interests of the firm and its customers.

And here's Billy Bugbee! What's the use of introducing this AOC "Roadster" either.



L. W. Bugbee

"We didn't raise our Billy to be an optical encyclopædia," but he is one. He carries more baggage than this. Ask him.

Among the younger generation of old-timers comes Pitt H. Herbert, our division superintendent, who is known for only



P. H. Herbert

one sly trick in his entire career. He worked his way into a job here before he was of proper age and was fired for being too young. But "Pitt" came back, started selling pop-corn balls and has stuck ever since. And now, after thirty years' service it's a pleasure to record the rise into a division superintendency of our sunny dispositioned, invariably courteous and considerate "Pitt"—one who knows the optical manufacturing game from double AA to double ZZ.

Onepiece Bifocal Lenses

Patented. European Trade-Mark "UNI-BIFO" (LUXE)

Since the great invention of bifocal spectacles by Benjamin Franklin—for an hundred years, in fact—men have known that the ultimate, the ideal, bifocal lens would be produced by grinding *two foci on one piece of glass*.

The brightest inventive minds have sought vainly to make such a lens without a distinct zone or halo between near and distant portions and with true spherical curves.

The processes recently patented for making such a onepiece bifocal lens mark a successful culmination of those generations of experiment, made possible by the development of precision machinery used by the American Optical Company.

Onepiece Bifocal Lenses are, without question, the greatest achievement in ophthalmic lens grinding. Jobbers will give you more information.

MANUFACTURED
BY THE

American Optical Company

SOUTHBRIDGE,
MASS., U. S. A.



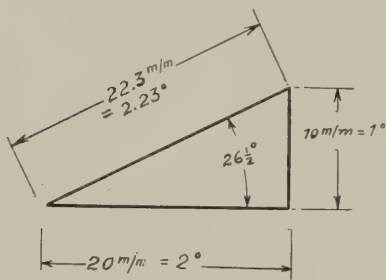
PRACTICAL TALKS WITH THE PROFESSION



If you have any problems or questions send them along. This is Your Page.

Formula for Prism?

"Gentlemen:—Would you kindly give us the rule, or formula for figuring prisms when written with two strengths on the one lens (in different directions) to one prism only. That is to say, how we could reduce the following, right eye one degree up and two degrees in. How could we reduce to one prism with a given axis?"—*From a Wholesaler.*



Answer:—The formula is taken from Laurance's "General and Practical Optics," Chapter 9. A simpler and, for all practical purposes, satisfactory method is by determining graphically the new axis and the new prism dioptry, when the prism in the vertical and horizontal axis is known, and this would be about as follows:—To graphically determine the power and axis of a lens with prism in both horizontal and vertical meridians so as to reduce to one prism with a given axis. Lay out the power 180° axis, which in the assumed case equals 2°, to some convenient scale. Say 10mm. equals 1°, erect line representing 90° axis; whose length equals 1° perpendicular to the 180° axis; connect the extremities of lines representing 180° and 90°. Calculate the length of the line connecting extremities, using rule for finding dimension of right angle triangle, or measure with a millimeter scale. Divide

this length by 10 and the result equals the prism dioptries or prism degrees.

The angle is found by measuring the included angle shown in sketch. Therefore the lens which calls for 1 prism dioptry up and 2 prism dioptries in, would be equal to a lens 2.23 prism dioptries, axis 26° 34' or approximately 26½°.

Formula for calculating prisms when written two strengths in one lens:

Let P=Power of resultant prism

Let V=Power of prism in vertical meridian=(1°)

Let H=Power of prism in horizontal meridian=(2°)

Let A=Angle of prism with horizontal

Then $P = \sqrt{V^2 + H^2}$

$L. P = \sqrt{1^2 + 2^2} = P = \sqrt{1 + 4} = 2.23°$

and $\tan A = \frac{V}{H}$. $\tan A = \frac{1}{2} = .50 = 26° 34'$
= 26½° approximately.

the patients and make eye-work, particularly at night, a very disagreeable and uncomfortable task.

The smarting of the eyes—tired upon use—and retinal hyperæmia are persistent features, differing from those found with ordinary eye-strain.

I have been wondering if there could be anything in the Tungsten light rays that could be held responsible. This is for my own benefit and anything you could furnish me on the subject would be greatly appreciated.

—*From an M.D.*

Answer: We are in receipt of yours relative to the quality of the light from Tungsten lamps. Your letter we regard as one more link of evidence going to prove that the higher the brilliancy of the light the worse its effect on the eyes. Great strides have recently been made in producing more brilliant light, but unfortunately the quality of these lights has been entirely ignored.

It is a well-known scientific fact that the more highly heated metallic filaments possess the property of giving off more ultra-violet rays than the old carbon filament. Tungsten has been chosen as the best metal for electric lights on account of its enormously high melting point, namely 3,000° centigrade. The result is that Tungsten will stand a higher heat and therefore give off more ultra-violet rays than any other metal that is used for electric lamp filaments.

When now we come on to the electric arc which has been variously estimated to obtain a temperature somewhere around 4,000° centigrade, then the amount of ultra-violet is still greater. Quite a considerable amount of work has been done

An Oculist's Recent Discoveries

Question: Will you kindly tell me what, if any, study has been made with the Tungsten electric bulbs, particularly in regard to the composition of such light?

Since this almost universal adoption, I have been encountering with increasing frequency, a condition which I have been led to attribute to the Tungsten lights. The symptoms are chiefly those of eye-strain, smarting of eyes and lids, and sometimes slight roughening of conjunctiva and a mild hyperæmia of the retina. The errors of refraction are variable, sometimes barely worth mentioning, in fact, but correction in most of those cases doesn't seem to produce any particular benefit, as some of the symptoms are rather indefinite but very real to



AOC_o TRIAL SETS

AOC_o Trial
Set No. 2631



WHEN a Company has made trial sets for 25 years and has succeeded in bringing them to such a point of excellence as to make them the world's standard, it is pretty good proof of their reliability and quality.

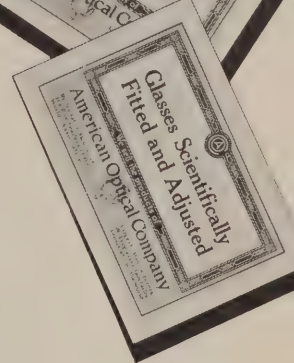
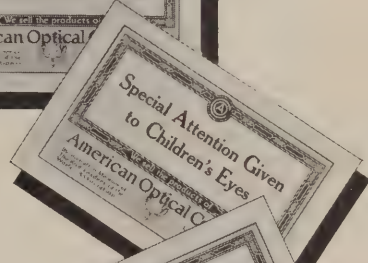
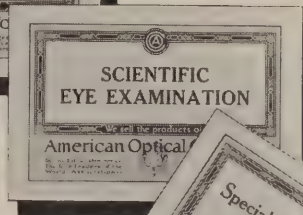
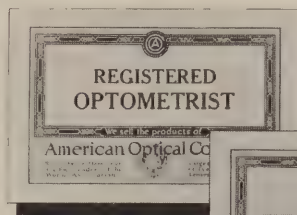
Illustrated above is one of the traveling style sets that has helped to build our reputation.

It is No. 2631, with contents "D": 35 pairs sphericals, 21 pairs cylinders, $7\frac{1}{2}$ pairs prisms, 18 disks and colored glasses, one 3 cell and one single cell trial frame.

The case is covered with fine quality black or tan leather as desired. Lined with velvet. Space underneath tray where stock may be kept.

This style case may be had with a number of different contents

Have You These Business Getters Yet?



No. 17D4.

WE have been wondering for some little time about many of you.

If you haven't "seen the light" and laid in a supply of these beautiful and ornamental window cards, at only twelve cents a set, now is the time to avail yourself of an opportunity. We make no profit on these. We merely charge the cost of packing and mailing. Considering their effectiveness and style they are worth more to you than many more elaborate displays.

SEND YOUR NAME IN NOW!

FOR our New Machinery Catalogue, which is to be issued shortly, and we will send you one, when it appears.

Name.....

Street.....

City.....

State.....

(Continued from p. 36.)

on the effect of the ultra-violet rays upon different portions of the eye, but a great deal more work in this direction yet requires to be done. As far as it has gone, however, the effects of ultra-violet rays on the eye can be summarized as follows:

Part of them get through the crystalline lens and impede vision as well as eventually destroy the lens. Another part acts on the

mucous membrane forming electric ophthalmia. Doubtless these are some of the symptoms which you have noticed and as far as we can see at present these symptoms can only be attributed to the excessive amount of ultra-violet radiation from these highly heated metallic filaments. The only remedy that we can suggest for this is for the patient to wear some kind of glass that will cut off these ultra-violet rays.

NOTE:—The very best glass that we can recommend for the purpose is our new Sir Wm. Crookes Glass. This is a pale neutral tinted glass, so pale that one can hardly tell it from white glass on the face in fact the difference is only visible after a very careful examination. It, however, possesses the wonderful property of excluding all these harmful ultra-violet rays, and the wearer can see all colors just as they are seen through white glass; in fact, this Crookes glass only shuts out more light than white glass of the same thickness.



Winfield S. Brown Uses Luxfel Idea Attractively

AMONG the most attractive window displays which have come to our notice is the Luxfel window display arranged by Brown Bros. of Manchester, N. H. The illustration shows the general effect of the display, but to be fully appreciated it would be necessary to see the display itself.

The base of the window was covered with a light material on which were a number of piles of Luxfel blanks, also several boxes overflowing with Luxfel blanks. In the foreground were arranged ten displays showing the evolution of Luxfel from the materials used in the manufacture, through the moulding, grinding, polishing and mounting up to the completed spectacles. In front of each display was a card briefly describing it; these were placed on a dark crêpe paper background making a very effective contrast. Several large cards placed against easels called particular atten-

tion to the benefits of Luxfel lenses. These were printed in colors with the word "Luxfel" standing out in bright red which gave just enough color to the display to make it very attractive. To the right of the window was placed one of the AOC model men wearing a pair of Luxfel lenses in a Library spectacle and illustrating better than by any other means how attractive Luxfel lenses are when properly fitted.

The display was originally arranged by the Globe Optical Company and was first shown in Boston where it attracted a great deal of attention in an Optometrist's window.

It is planned by the Globe Optical Company, Boston, to loan this display to those in the trade ordering a reasonable quantity of Luxfel blanks and lenses, who have facilities for displaying.

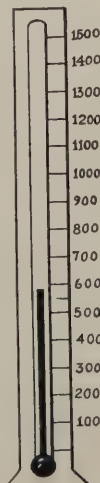
Watch This Rise Over His Head !

SALES on Sir 17M30 have now reached 580. Last month it was 550. This only shows how a display of merit will "take." Another dealer (see editorial page) writes that it's fine, but that people "kid" about its complexion. Once more we call attention to the fact that as

long as they talk he's selling goods for you. Watch this thermometer rise over his head. Ask your jobber to get you this silent salesman for \$7.50 F.O.B. Southbridge. A set of cards with every model man. Order by No. 17M30.



(Patent Pending)



You "No Catchum?" WE Catchit !

St. Helena, Cal.,

April 12, 1915.

Gentlemen:—On March 30th I asked you to send me one of those AOC Crest signs described in March AMOPTICO, but "no catchum" yet. Please "look see" why, and let me know, or else send one in and oblige.

(Signed) H. S. MacLACHLAN.

Chester, Ill.,

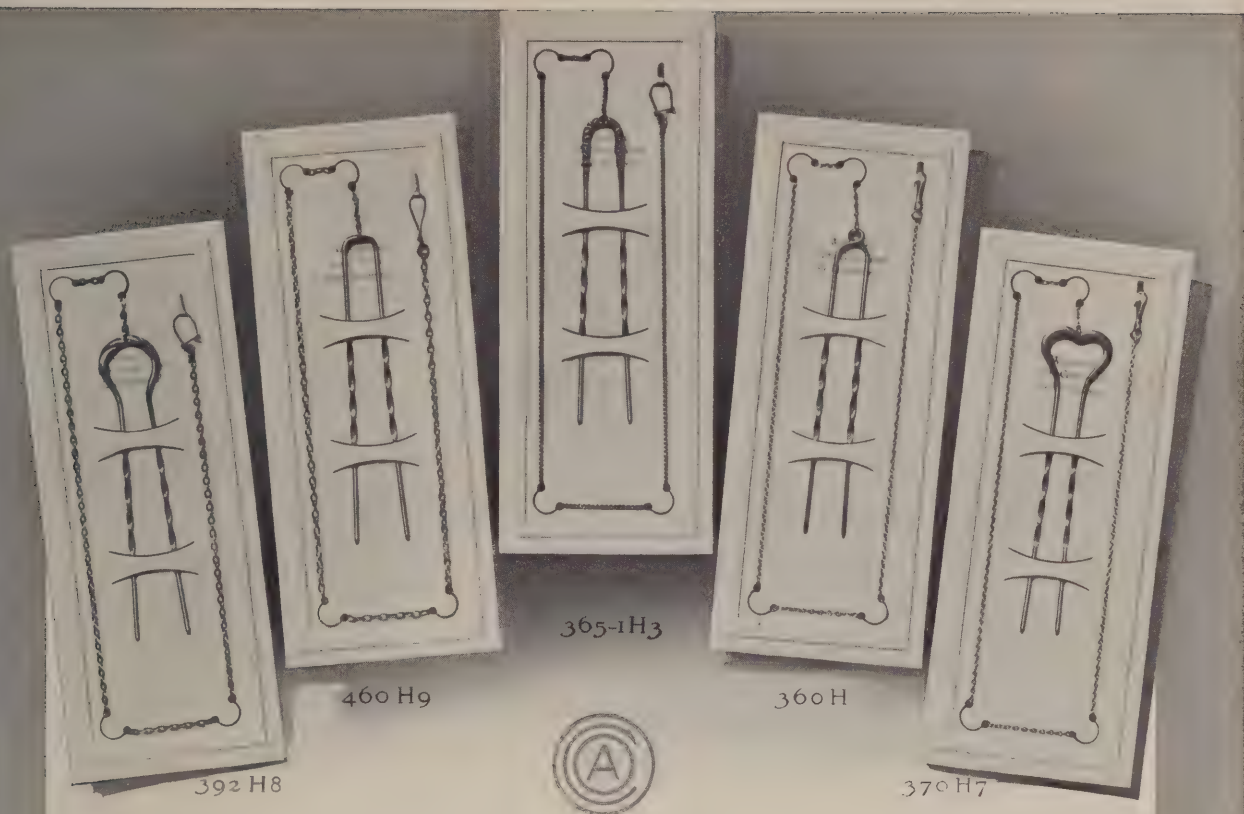
Feb. 14, 1915.

Gentlemen:—I received your Large, Clean and Instructive Catalog. Thank you very much.

The Catalog is a Masterpiece, and modern to the last tap.

Yours very truly,

(Signed) ALBERT E. FRITZE, M.D.



In the Hot and Windy Days to Come



AL HUGHES will carry the AMERICAN OPTICAL COMPANY's New Chain Line to the wholesale trade that has known him so favorably for seven years.

In taking charge of the sales end of the eyeglass holder and chain department he will bring AO quality and the service that has characterized his entire road experience.

Our chain department is operated as a separate unit in this factory, thus ensuring the best elements of manufacture and quick service to the trade in the future.

We take pleasure in introducing our Mr. Hughes and his famous smile. Wait for him!



“Motorists in
Vogue Glasses
Represent
the Most
Discriminating
Public”

Motorglasses
of Quality
That Will
Kilglare
By Night or
By Day



“An ounce of quality’s worth a pound of gold”

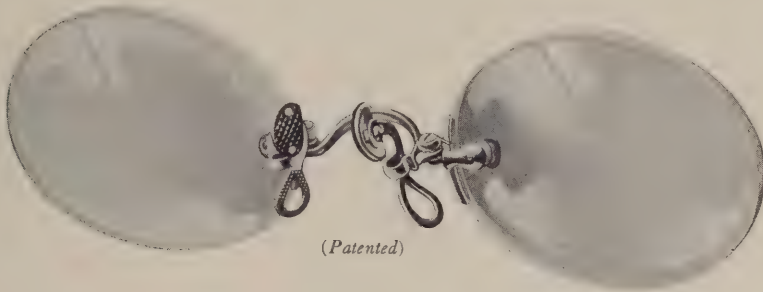
Amoptico

Published by the American Optical Company
at Southbridge, Massachusetts

Vol. IV

June, 1915

No. 3



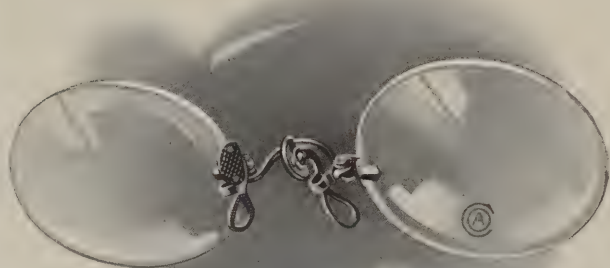
Every Detail in the Ovalex Fits-U

Is so close to perfection that we have built up a national reputation on Fits-U Style, Strength and Simplicity.

Our constant aim is perfection and the Fits-U Ovalex is evidence of eighty years' untiring, forward-looking effort towards absolute excellence. The hard-won leadership thus achieved has never been relinquished, and constitutes an obligation to continue the Service rendered in the past.

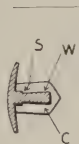


KeeLock—"The Interlocking Cemented Strap"



(Patented July 16, 1912. Other Pats. Pend.)

STRENGTH—or holding power, is achieved by several radical features. The Key, or wedge, is slid into the rectangular slot, the cement locks itself solidly behind, above and below the wedge (W) and in front of the shoulder (S), hence KeeLock. It cannot be pulled out. The shoulder also holds the strap in rigid alignment. It is particularly notable that a maximum of cement-adhering surface and the dovetailing idea of wedge-and-cement provides for absolute lens security and firmness.



No. 4

S=Shoulder
W=Wedge, or
Key
C=Lensstick
Cement

SIMPLICITY—The entire mounting is simple in operation and appearance. Lenses

are centered and slotted, at the rate of three or more per minute, to an adjusted depth. The strap wings and wedge are made in one solid piece. It is then short work to slip the Lenstick into both slot and strap, warm and bring together. The strap, with its shoulder settles unerringly into proper alignment.

But the superlative feature of the KeeLock cemented mounting is its combination of the best in others with the addition of some radically new and permanent improvements. Style and security are at last obtained in one mounting. And it is adaptable to your old drilled lens stock.



STYLE—of course is a question of individual taste and preference. KeeLock represents our collective effort to meet the individual taste as closely as possible. To date, those who have passed judgment on this new mounting have expressed nothing but delight with it. Its beveled facets are ultra-fashionable.

We presume this is because KeeLock was designed by an artist who appreciated the invaluable assistance rendered by beauty and style in the sale of a mounting.

INCONSPICUOUSNESS—In relation to other styles and the size of the lens itself KeeLock is practically imperceptible. The beveled edges heighten this effect, as one edge is constantly in the shadow while the other is exposed. Furthermore, by using the inside of the lens for cement, rather than its surfaces alone, it has been made possible to reduce the KeeLock strap still smaller than in prevailing styles.

This fashionably superior mounting has met with pronounced success. The KeeLock's combination of superlative qualities has aroused trade wide interest. Ask your jobber to tell you about it.

The expense of a KeeLock slotting machine and accessories is only nominal when you consider you are not *speculating*, but *investing* in a big cement strap development.

Cat. No.

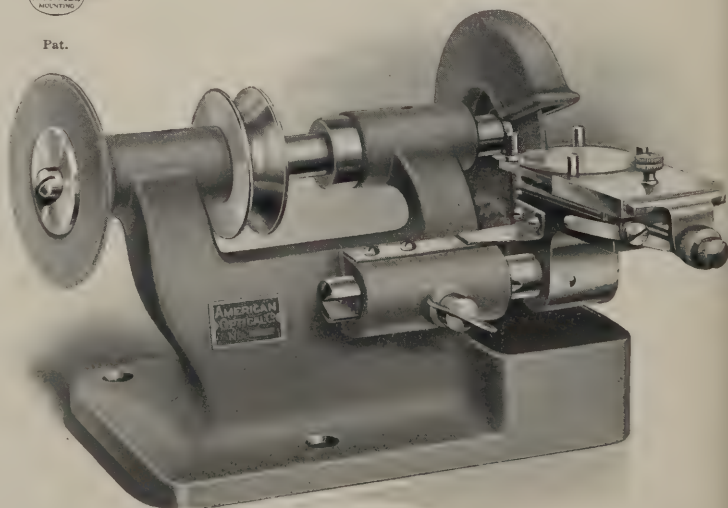
M 88b KeeLock Lens Slotting Machine, belt driven, \$20.00

M 89m KeeLock Lens Slotting Machine, motor driven, 25.00

Price



Pat.



(Patent Applied For)

M 88b

Slotting Machine

Amoptico



The Story of the Master Lenses

THE objective method of testing for defects of vision was the natural outgrowth of the lack of facilities which hampered the early optician, but it is one that has been developed to such a high degree of refinement since that time that there appears to be little doubt as to the permanence of its position as the chief aid of the busy optometrist.

Undoubtedly, a very substantial percentage of all the optical prescription work done in this country today has as its basis the trial set, and an equally large fraction of all practicing oculists and optometrists look upon the trial set as an indispensable part of their equipment.

No Reliable Sets Previous to 1890

It is of interest to note that prior to 1890, there were practically no reliable trial sets manufactured in this country. In fact, the medical and optometrical professions took particular satisfaction in the possession of an "imported" trial set. Most of these imported sets were made by A. Nachet, of Paris, and the standards of accuracy of their contents, while taken for granted at that time, would hardly be considered for a moment today.

The First American Made Sets

Realizing that much depended upon the establishment of reliable standards in lens manufacture, the American Optical Company undertook to produce American made trial sets, which immediately gained favor for their accurate and systematic focal systems as well as their uniform exactness and interchangeability with American trial frames.

The Eclipse of Foreign Trial Sets

Not only this, but the general excellence in the construction of the cases themselves, and the wide range of styles offered, totally eclipsed the foreign cases and brought about an entire reversal of the former conditions. The foreign makes were no longer accepted in

this country, and the American Optical Company cases soon enjoyed a wide sale. Shortly after, through the sale of some of these cases to our European customers, we began to develop a large foreign demand in England and on the Continent, despite the persistence of imitators of our styles and catalogue numbers.

Foreign Governments Endorsed AOC Co Sets

American Optical Company Trial Sets and Trial Frames are sold today the world over. European governments have given them high official standing, outclassing other makers in their own fields. The United States Army, Navy and Hospital Service are large users, and, in fact, this line has added great prestige to the AOC Co name and trade mark wherever optical wares are sold. Many AO Company trial sets are sold annually to supply a world's demand for dependable trial lenses.

Lenses the Prime Consideration

Naturally, the lenses are of prime importance—they are the trial set itself, and neither the style nor the fine finish of the container which holds them can add anything to their value for practical purposes. But it does make a great deal of difference to the optician to have them all arranged in such a manner that the necessary lens of any class may be immediately located.

Lens Manufacture on a Vast Scale

To come back to the lenses, it will be apparent that their manufacture is not alone an industry in itself but a very large and important one, as may well be judged from the views and description of the Lensdale plant which have appeared frequently, and the photograph of the new building which adorns the cover of the present issue. An attempt has previously been made to give a general idea of the numerous special processes of lens manufacturing as carried out on a tre-

"None of you so mean and base that hath not noble lustre in your eyes"—Shakespeare.



No. 2071

mendous scale involving the production of many thousand of finished lenses annually.

Much is known by the trade about the many particular operations necessary to the completion of even the commonest forms of Centex spectacle lenses; it will be

at once apparent that this applies with far greater force to the manufacture of what are really Master Lenses—the lenses of the trial set.

The Care of the Master Lens

It must not be understood from this that any different or any more painstaking methods of operation are employed in the manufacture of the Master Lenses for trial sets than are followed in the manufacturing of lenses for regular use, but the inspection and testing of trial set lenses is naturally exacting in the extreme. The slightest error of curvature or the merest imperfection—probably invisible to any but the most expert inspector—is sufficient to condemn them for this purpose. An error in the Master Lens might apparently magnify or correspondingly diminish the extent of the correction required in certain cases and thus render the refractionist's work altogether abortive.

Accuracy a Cardinal Principle

Too much cannot be said regarding the importance of securing the highest degree of accuracy in the lenses, and unremitting attention to the upholding of the AOC_o standards in this respect has been responsible for the reputation which AOC_o Trial Sets have achieved.

Trial lenses are made in two sizes, measuring exactly 36.3 mm and 31.5 mm in diameter. For convenience in referring to them, they are designated simply as 36 mm and 32 mm respectively. The trial rings measure 37.6 mm and 32.8 mm and for the same reason are known as 38 mm and 33 mm. Owing to the greater accuracy of measurement as well as convenience of reference that it permits, the metric system is used by the American Optical Company in the manufacture of trial lenses and accessories and found an advantage by the optometrist. In the catalogue covering this line, known as "Opticians' Trial Sets, Trial Frames and Accessories," the diameter of the trial rings is denoted by their respective

catalogue numbers, making it unnecessary to state the size when referring to them.

Refraction By Rule of Thumb

Up to ten or fifteen years ago, it was customary to test for the commoner defects of vision alone and the trial set was accordingly a simple affair. It usually consisted of nothing but sphericals, such as "Contents 'L'" as listed in the catalogue above mentioned. This contains 24 pairs each of sphericals in concave and convex, ranging from 0.25 to 8.00 with Trial Frame 2220.

Modern Scientific Refracting

Contrast this with what is now considered necessary in a trial set to meet every need of the up-to-date refractionist. As an instance of this "Contents 'E'" may be cited. This consists of no less than 40 pairs each of concave and convex sphericals ranging from 0.12 to 20.00: 24 pairs each concave and convex cylinders, ranging from 0.12 to 8.00, and 8½ pairs of prisms, one each 0.50, 1, 2, 3 and 4, and two each, 5, 6, 8, 10, 12, 15 and 20. In addition to the foregoing, there are 23 disks and colored glasses, as follows: one blank, two each pinhole, stenopeic, cross-lines: one each white, red and blue shades, 2, 4, and 6, smoke shades, 1, 2, 3, 4, 5 and 6, frosted, half frosted, Maddox prism, Maddox rod and chromatic test, with Trial Frames No. 2387 B, Wells temple, and No. 2220, and one set of test types.

Great Range in Choice Possible

Between these two extremes, it will be evident that the selection possible is so great as not to permit of detailed description outside of a catalogue, many of the sets only differing in the range of the various classes of test lenses. For example, "Contents 'I'" comprise but six pairs each concave and convex sphericals and six pairs each concave and convex cylinders, with five disks and colored glasses and one three-cell trial frame, the number of lenses employed frequently depending upon whether the trial set is intended for office use, or is to be carried in a traveling case.

Scope of Regular Listed Sets

Regular sets are listed having 14 pairs of sphericals with 9 pairs of cylinders: 20 pairs of sphericals with 11 pairs of cylinders and 4½ pairs of prisms: 28 pairs of sphericals and 17 pairs of cylinders, with 4 pairs of prisms: 30 pairs of sphericals and 18 pairs of cylinders, 5½ pairs prisms: 32 pairs of sphericals and 20 pairs of cylinders, 5 pairs prisms: 35 pairs of sphericals and 21 pairs of cylinders, 7½ pairs prisms, also 40 pairs of



No. 2241



No. 2961

sphericals and 24 pairs of cylinders, $8\frac{1}{2}$ pairs prisms, with disks and trial frames to correspond in each instance.

Special Trial Sets

In addition to these, there are several special sets, such as prism sets, "Contents 'K'" consisting of 10 pairs of prisms, either square or round; also bifocal sets and the like.

Forty Different Styles in All

In all about forty different styles of trial sets are listed, and with our facilities for manufacturing, orders may be filled at short notice, many of the more staple assortments being carried in stock. Where none of those listed meet the requirements, special sets will be made to order, but it will be evident that orders for regular styles can be filled most promptly, as a trial set with a special assortment of lenses, or requiring a specially constructed case, must be made from beginning to end.

It will be noted that the sets regularly listed have been selected with a view to meeting every possible requirement, in order to avoid the necessity of ordering special sets. This is because the specification of even a single pair of lenses differing from that of the regular assortment of foci, involves the making of new focus strips, or a specially constructed case and tray, and accordingly adds materially to the cost.

Trial Frames Next in Importance

Next in importance to the Master Lenses themselves come the trial frames on which the AOCO holds or controls many patents. They possess numerous exclusive features of interest and are made in a number of different styles. Their intricacies and varieties are well known to the profession.

In fact the theoretical and practical requirements for Master Lenses and Trial frames have now become so perfected that the modern oculist or optometrist now orders his Trial Set with an eye largely to the style of the trial case. He realizes that his Trial Set should add to the looks and atmosphere of his office. His case, in beautiful natural woods, or ivory white now tends to reflect an atmosphere in keeping with the professional services he renders. The styles in Trial Cases will eventually be as varied and adaptable to individual needs as are the Trial Sets and Frames today.

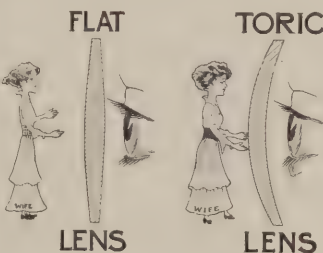
Try Our High Quality 1.523 Index

While the American Optical Company has in the past supplied very high grade 1.507 index glass of unvarying quality and while this too is very well known all over the country, it does not as yet seem to be so well known that we are also able to supply a 1.523 index glass of an equally high quality. Until recent years our glass manufacturers seemed to think that this glass could not be produced unless it had some tint to it and these tints, when the blanks were looked at edgewise, seemed either of a greyish color or else a green tint like bottle glass. However, after a great many experiments and much labor and time these difficulties were overcome and the glass has now been satisfactorily produced with a constant refractive index; the color, as we stated before, cannot be distinguished from that of the 1.507 glass. The refractive index, of course, was not the only property to be thought of: the glass has had numerous and exhaustive tests as to its durability, its hardness for scratch resisting, fusibility, expansion-coefficient, dispersion and other properties.

Our 1.523 Index glass is made for us by the same concern that for so many years has furnished us the 1.507 index glass of enviable repute. It is manufactured by the great firm, Chance Bros. & Co., Ltd. The American Optical Company is extremely fortunate in having an uninterrupted source of supply for optical glass of both indices.

Consequently, jobbers will be glad to know that they can still obtain an undiminished supply of lenses or blanks of 1.523 index, superior as regards color to that which they previously obtained.

It All Depends on Your Lenses, Boys! Some still prefer the flat at that!



"They All Look Good Thro' Torics"

Fits-U Lens Cleaners De Luxe

Subsequent to the announcement of an addition to our Dealers Helps — Fits-U Lens Cleaners — our service department was literally swamped with orders for this popular form of advertising.

The value of distributing Fits-U Cleaners can not be overestimated. They are a lasting reminder of your service and location. The material from which Fits-U Lens Cleaners are made is especially suitable for the purpose. They will clean quickly without injuring the lens. They are furnished plain with imprint or with illustrations and appropriate copy exploiting your service or the merits of Toric Lenses, etc.

Order through your jobber or send remittance direct to Dealers' Service Department. \$7.50 per thousand. No orders accepted for quantities less than 500. Send for samples.

Announcements

Where gross prices are quoted on our goods, orders for smaller quantities are considered subject to a proportionate increased price.

Our Colored Set Goods can now be ordered from stock.



A Snap Shot of Our Prize Winning Salesmen

Successful Contestants for the Automobile and
Watches Presented by the Rice
Leaders of the World
Association

WHITTLE up your Eberhard Fabers, scratch like a competitor's emery and get up something nifty and neat for AMOPTICO about this Rice Leaders of the World Sales Contest" said the Ad manager. And there you have the King's English—so simple and yet so full of meaning; direct and yet so subtle. We are given free rein to call on Shakespeare or Elwood E. Rice himself. The sky's the limit! Happy is the day thereof, theret!

So your House Organ Grinder beats it up into the attic, pulls out the old music box and gives her a preliminary crank to find out "Whoosoo" in AO Sales Circles.

The first tune, all monkeying aside, sings the praises of the Rice Eaters* of the World Association. So does the last, but on the "upper crust" above you are now allowed to see five AOCO leading Salesmen of the World. See them? They are standing alert and erect in the precise geographical positions from which they covered the world and got away with the prizes.

All except J. P. Petherick, manager in London. He is given the express privilege by Mr. Rice of sitting down, because he won the Grand Prize of a \$1050 Overland automobile. If the others sat 'n their prizes there'd be a serious disorganization and the Elgin works would go to smash.

Close up to Mr. Petherick you see an old time AO favorite, "Jock" (Arnold) Moseley of the London office, who pressed the Manager so hard we gave him a \$200 Elgin Watch of Special design and promised him a ride in the "hoitomobile." This is two points for England and one way of putting our "Made in

America" products "across" on the other side. Some record this, for office organization and achievement in the face of

untold difficulties, to be the leading salesmen.

Somebody's blowing smoke rings down behind the horizon but we'll now duck that steamship for cowardly reasons and "walk" across those pineapple spikes to New York. John H. Bohling, he of the patent leather hair and manager of our New York office, greets us by the waterside while into his chambered nautilus we whisper the watchword "Elgin" and press a tarnish-proof \$200 Elgin of same design into his moist palm. "Jack" landed in third place, but that's to his credit when pawnshops are so handy to \$200 gold watches. Yea, bo!

Next! The fellow with the old maid's elbow and the large white Walkovers is the second prize winner, Frank N. Kreissl, our Chicago manager. He is depicted as taking his honors modestly, but wondering why Elwood, when he presented him with the watch, forgot the chain? But leave it to Frank; he knows the jewelry trade.

Aha! there's A. C. Smalley, fourth prizer with a varsity ribbon on his watch. "Jack" has a sensitive stomach, and here we note his peculiar habit of telling time by this simple and humane method. That pile to his left may be taken either for radium, gold receipts or the Rockies. He's getting the business anyway, for California knows a Man, as well as a few other things.

We now play our last tune to these "Upper Crusters" of our sales staff and all other AO representatives in the great International Sales Classic who ran true to form throughout the whole course, but were nosed out narrowly at the finish.

*Leaders.

We Knew You Would Recognize a Good Value

Our Eyedead Motorglass, model No. 8056, is one of the most advanced styles and best values marketed for some time.

We designed this style to include a combination of distinctive qualities with an extraordinarily low price; this has been our aim for some time.

The Eyedead first satisfies the demand of the buying public for style. The same features, such as the Zylonite fronts and gold-plated screens and temples, give this Motorglass strength and elasticity of construction—likewise a style all its own.

The wholesaler's or dealer's first consideration—that of construction—is satisfied by the following merits. For instance, the lenses are of selected Mi-Coquille Amber, Fieuzal or Smoke, according to choice. The gold-plated screens are light and yet capable of standing the rough-and-tumble wear that a Motorglass must undergo. The screens are of a fine mesh calculated to keep out dust and dirt and yet let through



Patent
Allowed

No. 8056

sufficient ventilation. They are attached to the fronts with our new patented invisible clincher hinged joint. The temples are made of durable, heavy cable wire which conforms easily to the ears. The bridge is inset, so that the eyelashes will not touch the lenses.

The public and trade question of price is disposed of by the extremely reasonable prices of \$1.75 to \$2.00

per pair at retail, and \$12.00 per dozen to the trade.

We feel perfectly assured that you will recognize the peculiar excellence of style and structure in this Eyedead Motorglass from actual usage. Where can you find a combination of such qualities at so low a price?

We are relying on excellent service to expedite the sale of this most unusual proposition, which bears the additional attractiveness of including a beautiful gray lined Japtol Enamel Case No. 1357.

Our Own Little Houdini Gets Out of Chains and Holders

"Al" E. Hughes has girded himself about forthwith with eyeglass chains and holders and sallied forth to meet the wholesale trade.

Some fertile minded reporter recently consigned "Al" Hughes, our chief chain salesman, to an abandoned farm, where he was to be left high and dry, according to Hoyle, to work out the rest of his earthly existence. Now, our A. B. Wells has resurrected an abandoned farm up here and planted a

half million, more or less, little pine trees, etc., but Julius Dresser, Esq., is chief plowman there! "Al" is only permitted to look.

Therefore, for the benefit of posterity and agriculture be it known that "Al" came here primarily to take our eyeglass holder and chain line, to renovate it and disappear in the direction of the wholesale trade. So "Al" shook the sods from his feet May 10th, gave the new perambulator one last fond push and a

"Coo" and disappeared over the hill with his expense book.

Our president said "Go West, Young Man." To date the West has lined up magnificently to welcome our experienced farmer, father and salesman with chain orders. Which all goes to prove that a farmer can get away with it just as cleverly as the fellow that invented him—provided he has AOC Quality to introduce him properly.

"As it was in the beginning—"



is now—



and ever shall be."





NOTE: This is the second of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff will endeavor to make these articles simple, and interesting to everybody from month to month.

The Visible Spectrum

IN OUR last article we discussed light as a form of wave motion, its speed and the size of the waves and how they act.

We mentioned that the reason why we possessed the power to see colors was because the different waves of light act differently on our eyes. We can put this in another way and say that the speed of vibration, or frequency of the waves, affects our eyes.

We know that if a string is stretched with moderate tension between two fixed points and then plucked apart, it will vibrate more or less rapidly and give a sort of a dull note,—then if we tighten up the string and pluck it again, it will vibrate more rapidly and give a different kind of note,—we call it a higher pitched note. In the same way different forms of light produce different wave lengths and vibrate at different speeds, giving to our eyes a different tone, or, as we call it, color.

Therefore, we can describe any simple kind of light, either by giving the color sensation which it produces on the eye, or more accurately by stating what its wave length or the frequency of its vibration is. It is by no means an easy matter to measure the wave length of any particular kind of simple light, but once it has been measured the statement of the wave length is an accurate description.

The most extreme red that the eye can detect has a wave length of about thirty-two millionths of an inch; next comes red with about

twenty-six millionths; orange twenty-three millionths; yellow twenty-two millionths; green twenty and one-half millionths; peacock blue nineteen millionths; blue eighteen millionths; violet sixteen millionths; extreme violet fourteen and one-half millionths.

In this list of colors you notice that neither white nor black are mentioned, because white is a mixture of all of them and black is simply the absence of all light.

The next thing to consider is how do we know that these colors are obtained from ordinary white light. The answer is that we can analyze the white light and show all the colors and then recombine all the colors again and re-form our white light.

In nature we find the colors sorted out in the rainbow where they stand side by side and we know that the rainbow is formed by sunlight passing through

oils such as turpentine, cinnamon or bisulphide of carbon we get respectively still more brilliant colors.

Naturally, if we find that a three-cornered bottle full of liquid will display this rainbow effect, we would come to the conclusion that a piece of transparent glass of the same shape will do similarly, and so it does; and we arrive at the use of the well known glass prism to produce a spectrum of colors.

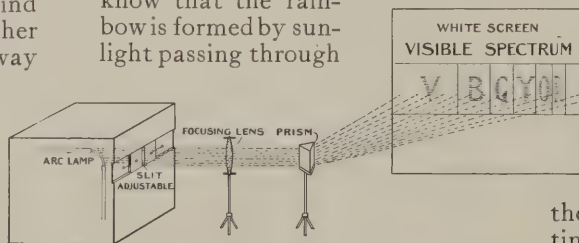
The word spectrum means an appearance; in this case an appearance of colors, the colors sorted out in their proper order.

Further, the spectrum produced by a prism is sometimes called the prismatic spectrum. In all cases, one will notice that the order of the colors is the same and that the red light is always

refracted least and the violet most. If the refraction of the colors were all equal the prism would not separate them. The difference of the refraction between the most refracted violet and the least refracted red of

the visible kinds of light is sometimes called the dispersion of the prism.

These are the great researches that Sir Isaac Newton undertook. He used sunlight streaming through a round hole in a shutter. If we start with his experiments and first try the effect of focusing on the screen the image of the hole by interposing a positive lens and then put our prism in the path of the beam, focused by the lens, we notice that the colors overlap very much near the middle and give a mixed effect. Whereas, when we use a small hole, though we have



the raindrops, which refract it and in refracting it sort it out into its different colors.

If we take an arc lamp as a miniature sun to give us white light and place a globe of water in the rays, we know that we will get a sort of bow of colors.

Instead of using a globe of water, if we use a three-cornered bottle and put that in our beam of light we get a more brilliantly colored patch on our screen; and if instead of water we fill our three-cornered bottle with certain

It Cuts Fast and Seldom Scratches

DURING the past year we have been supplying an ever increasing amount of our special grade M302½ emery to the trade. The special properties of this grade are its rapid cutting ability and less danger of scratching, from a lens surface striking the iron.



The M302½ is particularly adapted for rapid work in large prescription shops. It is slightly coarser than our regular finishing M303 grade, and cuts much faster. If directions as to running black, or "dead," are followed closely it leaves a beautiful steel blue finish on the

lens surface. The directions follow:

"Wash the roughed-out lens blank very carefully to remove every particle of AOCo M 301 emery. With a brush apply AOCo No. M 302 smoothing emery mixed with water to form a paste. Grind very close to the finished thickness, allowing less than 0.1mm of stock for the finishing emery. Toward the end of the smoothing process, work the emery down, applying water drop by drop as necessary, until the emery assumes a dark brown color. Again wash carefully in clear water. Be sure that a uniform surface is obtained before the AOCo No. M 302½ finishing emery is used."

The directions as to working down 302 smoothing emery now apply likewise to the 302½ finishing emery.

(Continued from previous page)

less total light, the colors are more intense, because they overlap less.

Taking this hint and substituting for the small hole a narrow slit—better if it is adjustable—we finally get the colors very pure without any overlapping, and so they are more intense.

So that our improvement on Newton's experiments has led us to the following combination: an arc lamp as our miniature sun,

a narrow slit to limit our beam of white light, a lens to focus the image of the slit as a fine white line on the screen, and a prism in the path of the rays of light coming from the lens, which in refracting the light, also splits it up into the various colors of which that white light was composed. This method of forming a visible spectrum is shown diagrammatically.

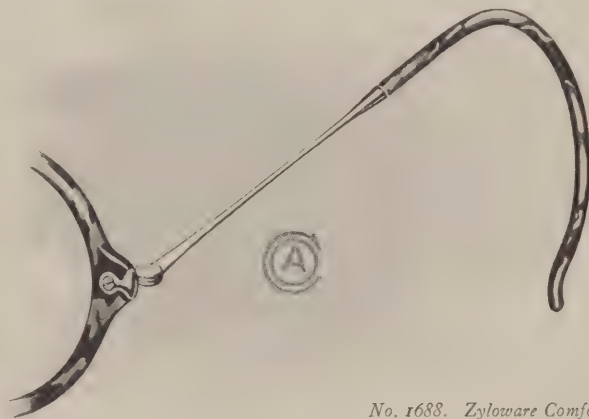
Newton's great theory that white light was such a mixture of

It is customary in some shops to omit the use of a smoothing emery. Others still use a manufactured flour of emery for smoothing. We strongly recommend the use of a smoothing emery between the roughing and finishing. A careful test of our 302 under directions will show economy both in time and money when used in place of ordinary flour of emery, regardless of difference in cost.

Every Time You Wag Your Ear

Our stylish, elastic Zylo tip temple stretches itself comfortably. Every time it flaps heavily in the wind old Zylo tip rides serene and smooth till the breeze gives up.

We have this up-to-date innovation in four styles—crystal, light shell, dark shell and amber. The idea is nifty, the tip is a sure 100 to 1 moneymaker and can be attached to any AOCo spectacle frame. Made 6,



No. 1688. Zyloware Comfort Temple. Patented

6½ or 7 inches long. One-half the temple is Zyloware, the other half is either gold, gold-filled or alumnico as desired. Take a tip and write in to your jobber.

all these colors was for a long time combatted by Goethe, and this great poet and dramatist held that the prism added something to the light and gave it a tint or color of one sort or another; but today no scientific men, even in Germany, hold Goethe's views.

Such then, is the production of the visible spectrum, and in subsequent articles we will extend the analysis of white light to the invisible portions.

Science Alone is Only Half the Tale About Crookes Glass

OUR correspondence reveals, as nothing else could, the intense interest and exhaustive research work now being put into this subject of colored and tinted lenses. This is in itself a whole-some thing, as it will tend to weed out those glasses which have in the past received consideration, but deserve none. On the other hand it will enhance and substantiate the value of those glasses which are founded on a sound scientific basis. We have in mind particularly the Sir William Crookes glass, upon which has been centered an interest and attention such as has never been before attracted to any colored or tinted glass.



A Scientific Foundation Supports It

Today, despite the powerful searchlight centered upon the claims for Sir William Crookes glass, it is still held to represent all that was claimed for it originally, and enjoys the position of a glass founded upon the principles of scientific research and developed by the most modern processes of manufacture.

Analysis of Some Claims Made

It has been claimed for instance, that amber and several other colored lenses shut out more of the ultra-violet rays than does the Crookes glass. They do, but they alter colors, and colored and tinted lenses cannot be compared. Further, by the statement that Sir William Crookes glass cuts out all of the *harmful* ultra-violet rays, i. e., those up to wave length $360 \mu\mu$, which are the radiations absorbed by the crystalline lens of the eye.

Other glasses, it is true, have been produced for analysis, which show a higher percentage of effectiveness in particular properties, such as the ability to cut out a larger percentage of heat and ultra-violet rays, etc. But these facts have already been known and were originally advanced with the claims for Crookes glass.

Crookes Experiments Revealed This

It was originally stated, for instance, that Sir William Crookes in his famous three hundred experiments, had found several glasses which included a higher percentage of ability to: 1. cut out the ultra-violet; or 2. the heat rays; or 3. let through more visible light, etc. But no one glass combined these three properties.

It was stated that the ideal glass would cut out one hundred per cent of ultra-violet rays, one hundred per cent of heat rays, and let through one hundred per cent of visible light. And it was then pointed out that the possession of any one quality to the highest degree was not sufficient, unless accompanied by a combination of the other desired qualities to a high degree.

Crookes Is a Combination

It was claimed for Crookes glass, therefore, that it combined to the highest degree yet achieved the many desired qualifications for an ideal tinted lens, as a result of which it now has this reputation.

The critics of Crookes glass, therefore, in focusing their attention on one or two properties, lost entire sight of the outstanding fact that a combination of qualities is more desired in a glass than the mere possession of one property to an exceptional degree.

Æsthetic and Commercial Factors Ignored

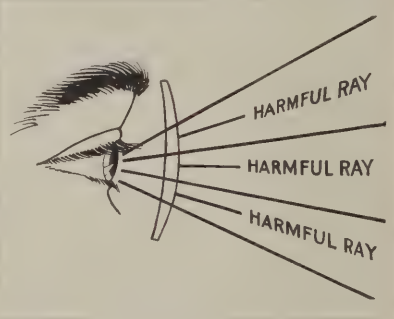
Some scientists have also ignored the æsthetic and commercial factors in the attractiveness and sale of a colored or tinted glass, by giving too close attention to particular properties in a glass.

Importance of Æsthetic Factor—Invisibility

They have forgotten the fact that Sir William Crookes glass in its æsthetic properties carries a tint so imperceptible as to be *invisible*, on the face of the wearer, to all but the eye of the expert observer. This quality of invisibility at once answers one most important objection heretofore raised to all colored and tinted glasses,—namely, the prejudice of the public against wearing a glass that looks unsightly or alters colors.

Crookes Tint Is Evenly Distributed

They have also ignored the *commercial* factor that Sir William Crookes glass can be made in large quantities. It can be made free from striae and bubbles, and what is also important, it is manufactured so skillfully that the color is distributed evenly throughout the lens. It is thus seen at a glance that a glass from which 80 to 90 per cent of lenses can be obtained successfully, is of far greater advantage than a glass from which only 40 per cent or less of lenses can be obtained. There have been scientific glasses which have had unquestioned merits, but were either too expensive or could not be made in commercial quantities successfully.



Satisfies Three Points of View

So that, looking at Crookes glass from its scientific standpoints plus those equally important factors of effectiveness, invisibility, looks and commercial availability, it is seen to be a combination of desired qualities to the highest degree yet attained. In this Scientific, Æsthetic and Commercial sense Crookes glass then has substantiated the original claims made for it and stands as previously claimed, the tinted glass nearest the ideal yet produced.

Crookes is Beyond Argumentation

We feel that Crookes glass is now well beyond the argumentative stage. We now advocate a trial. Try it on yourself before you attempt to persuade others. You will be convinced by its soothing, restful effect. We make no extravagant claims. Our statements are subject to test and susceptible of proof. It is significant that we have yet to hear an objection to Crookes by a disinterested person. One prominent scientist who viewed it solely from the scientific standpoint, admitted that Crookes is the best tinted glass when shown the importance of the æsthetic (invisible) and commercial factors. Let us hear from you.

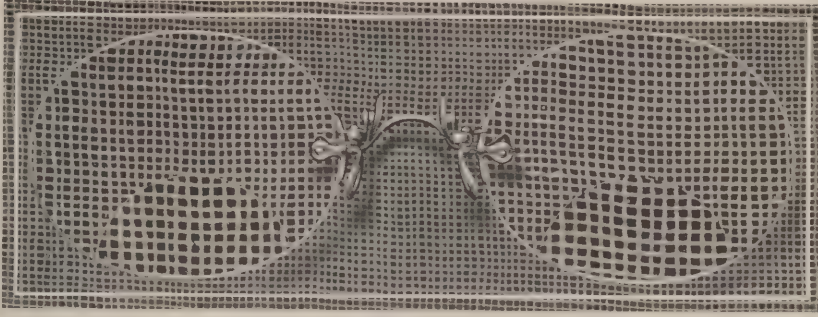
"This fault in us I find, the error of our eye directs our mind"—Shakespeare.

The Crowning Achievement of a Century's Struggle

For a perfect bifocal lens—ground in one piece of crown glass with no dividing line, no color aberration and true ophthalmic values—has given the world the One-piece (patented) Bifocal Lens.

The magnificent story of the hundred years' effort to overcome practical difficulties against it compares in our imagination with many of the great developments in optics.

At first there did not appear to be any process devised which would do away with such glaring defects as imperfect spherical surfaces, well-defined neutral "zones" having disagreeable prismatic



(Patented Uni-Bifo (Luxe) Reg. European Trade Mark)

effects between foci, and deep grinding and polishing scratches or grooves.

But after the trial and failure of ingenious methods for years, there finally arose this practical bifocal so literally in a class by itself that we have not yet begun to realize its importance as a lens development.

It combines for the first time six qualities never before in one bifocal:

1. Absolutely no chromatic aberration, 2. Invisibility, 3. Thinner than any other bifocal forms, 4. Two sizes of reading portion available, 5. One side only to be surfaced, and 6. A hard surface of crown glass to resist scratching.

Inspired Common Sense Built Our Gold-Filled Lines

HARK to a few choice thoughts, dear reader, about Quality plus gold-filled lines and one House that keeps them both. ¶Says Andrew Eadie in "Drill Chips":



"Class now in session, we may consider for a moment the strange circumstance of 'quality' and its too frequent presence as a suspicious character. In looking through the advertising sections of magazines and trade journals we often come across some startlingly subtle stuff that runs its merry way after this fashion: 'Bull's

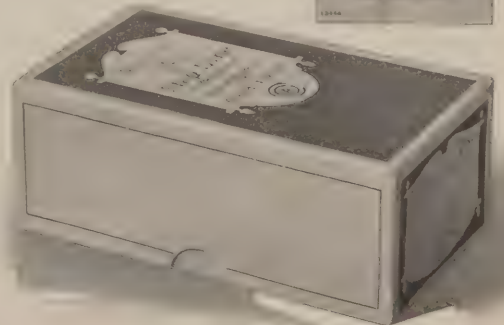
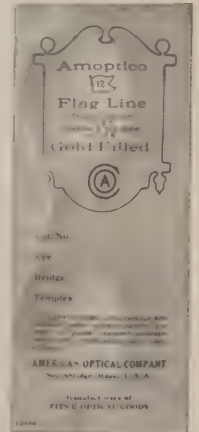
Bouillon Cubes are made of the choicest products obtainable,' or 'Flivver motor cars are constructed of the best material money can buy.' Turning over a few pages we are confronted with the momentous fact that Kollege-Kut Klothng represents the ultimate and then some, as far as fabrics, workmanship and fashions are concerned.

"Putting gently aside the question of truth, if there be any such question, let us stand up in our Hanans and ask whether these verbal orgies in the realm of superlatives are either interesting or convincing. Hearing no response we ask again: Does the trade come jostling one another up your front steps when you with rare ingenuity bellow through the open door that your goods are the unqualified best—the absolute knee plus ultra? Has anyone, since the foundation of the Ananias Club, been convinced that your goods have the competition backed off into the sagebrush just because you said so in your short, positive monotones? Do the great unwashed hang on your oratory when you are getting red in the face from the fire of your eulogies? Well, not precisely. At least, not any more. The thing simply isn't done since Friend Taurus has come to play such an important

part in our social intercourse.

"As intimated up yonder, we could lay hold of all the tin-panny bromides about superexcellent quality but we'd rather tell you something with a meaning all its own."

For instance, we carry one-half million dollars in manufactured gold and gold-filled goods in our vaults constantly. This was once real money converted in our own shops into gold and gold-filled wire. There is no other optical manufacturer who sees the whole gold-filled process go through his own factory from start to finish. What advantages do we gain? We gain every advantage that a complete process enjoys over one that is split up into disconnected units—in smoothness, economy, time, the value of instant inspection, etc. We need depend on none but our own experts for those all-important qualities, color, stiffness, finish, design and output. What is the result? Well, we feel entitled to the use of "Quality"



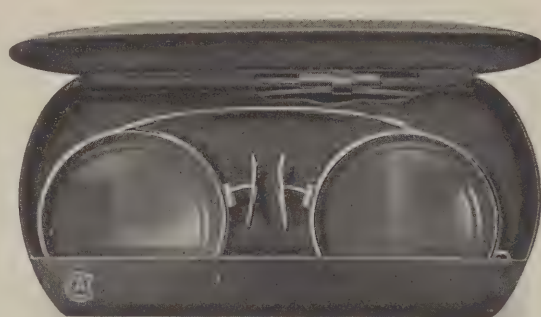
The Individuality of a Case is All-Important

When you consider that style is now one of the strongest motifs in automobile, clothing and commercial designing of all sorts.

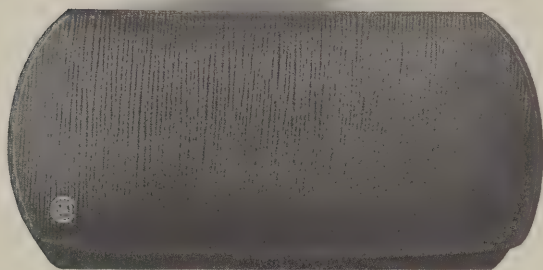
Have you not observed the tremendous and startling changes of style in commodities and advertised luxuries of all sorts of late—their artistic, stylish appeal?

Possibly it has slipped your attention that spectacle and eyeglass cases, for instance, have undergone momentous changes in keeping up with this general progress.

If not, you have then noted how our fashionable



*Patented. No. 725. "G" Leather
Showing spring off center to avoid catching spring of glasses*



No. 725. "G" Leather

cases have become thinner and more compact in design. All up-to-date cases have these watch-like advantages, with tight ends and every known covering from genuine French calfs to superb imitation leathers.

The No. 725 "G" leather case shown in the two illustrations above is positively new and the only case of its kind on the market. The form is artistic to the last degree, and made to take a variety of hoop springs drilled above center, and also our non-folding Oxford eyeglass.

Hitherto there has never been a style which would prevent damage by the case-spring to the eyeglass bridge, because the spring was located in the center. By a simple device, whose obviousness only demon-

strates more vividly our attention to the simplest details, we are now producing this new style with neatly concealed spring set to the right of center. There is consequently no interference possible now between spring and bridge. We have set a new style with this 725, which carries our finest "G" grain leather and the snappy patented self-closing case.

For Zyllo frames the third illustration shows the newest

style in a long grain flexible case, reinforced at the bottom to protect the endpieces. The number of this is 2248 Q; the leather is handsome and hard-wearing, buttoning down with a flap for security. The inside is smoothed so as not to mar the shell frames.

In order to accommodate spectacles with large lenses and cable temples we have just completed a third style in polished aluminum cases—No. 378—which is the same size as our No. 377 case but with form varying to accommodate the larger spectacles described above.

Your reputation is safe with AOCO eyeglass and spectacle cases. We have set the styles and others followed. The mechanical and structural excellences of AO cases are now taken for granted where others are subjected to the closest scrutiny.



No. 2248. Q Long Grain

The man who buys AOCO cases nowadays consequently asks for the latest styles, knowing he receives full measure of structural qualities along with it.

"The Egoist is half blind, for he sees with only one 'I'"—P. & S. Critique.

Amoptico

Reg. in U. S. Pat. Off.

Vol. IV June, 1915 No. 3

Published Monthly by
American Optical Company

1833-1915

Channing M. Wells President
Albert B. Wells Treasurer

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Southbridge, Massachusetts, U. S. A.



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American Optical Company, Limited
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Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglass and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.

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The Optical Journal on Our Model Man



It's Omaha
correspondence
notes that: "E.
H. Flitton, using
one of the plaster
cast heads that
have come to deco-
rate nearly every
optical show win-

dow in this part of the State, has
arranged a decidedly attractive
advertisement of automobile
goggles."

Wuxtry! Crookes No. 10F7 Out

The Sir William Crookes Booklet in sepia
and white is off the press and ready for
distribution to the trade and public.

This eight-page folder descriptive of
Crookes glass contains a beautiful hand-
lettered cover with a portrait of the great
scientist. Illustrations in rich brown are
scattered throughout the booklet and at
the end a space for the dealer's imprint is left.

We expect the demand to run well into
six figures. So order early by number
10F7. Quantities of 250 and 500 free with
imprints. Above that a nominal charge of
\$2.00 per thousand.

North Dakota Appreciates Bugbee

CHRISTINE, N. D.

April 6, 1915.

AMERICAN OPTICAL Co.,

Gentlemen:—If devotion and
enterprise in the interests of the
optical profession in North Dakota
deserves commendation, then you
are rightly entitled to the same.

The coming of your representa-
tive, Mr. L. W. Bugbee, to Fargo,
N. D., and his scientific address on,
"The Theory of Light as Applied
to Ophthalmic Optics," was a
source of deep gratification to the
ophthalmologists, oculists and op-
tometrists of this state.

I am sending a communication
to The Keystone concerning this
lecture. Believing in the brother-
hood of man makes one feel like
spreading eastern light, especially
such as you diffuse from your
laboratories.

Most respectfully,

WILLIAM EDWARDS.

First He Says

April 26, 1915.

AMERICAN OPTICAL COMPANY,

Gentlemen:—I have received
the new No. M72 machine, and
have had it running several days.
I feel that you have brought this
machine to a closer degree of per-
fection than anything I have seen
in edging machines. Your lens
clamp and adjuster are just about
perfect, your weight tension is far
superior to the ordinary spring
tension, and in my opinion, no
equalizer could work as effectively.
The convenience of having the
formers on the mandrel at all times
is not to be overlooked; the hand
device is a wonderfully clever
arrangement. I can see perfect
satisfaction ahead with this ma-
chine.

Yours very truly,

ROBT. J. TAUPERT,

Las Vegas, N. M.

Then He Adds

May 5, 1915.

Gentlemen:—I have your favor
of May 1st, requesting the use of
my letter regarding the M72
automatic edger sent me recently.
After the trouble I had with my
first machine, I feel that I was in
good position to appreciate its
faults. The fact that you had
remedied these faults in your new
one, together with your generous
treatment, led me to write you as
I did, and I would show very little
appreciation if I did not permit
you to use the letter, especially as
it is pretty generally known
throughout this territory that the
old machine was not perfectly
satisfactory. I purposely delayed
writing you that I might prove the
work of the machine, and to this
date it is giving me the same entire
satisfaction.

Yours very truly,

ROBT. J. TAUPERT.

A Boot that Boosts!

May 8, 1915

AMERICAN OPTICAL COMPANY,

Gentlemen:—I am sure "the
boot is on the other foot" and we
should thank you for the very fine
talk you gave us on tinted lenses.
Heretofore, I must admit, I have
been somewhat skeptical of the
real value of tinted lenses, but you
have succeeded in converting me
as to the value of Crookes glass
especially, and whereas before I
have very seldom used any tint in
my own private practice I have
changed my mind, being thor-
oughly convinced of their advan-
tage by your practical demonstra-
tion. "Seeing is believing," and
you have certainly been successful
in making me believe. Thanking
you for your kind words, I am

Sincerely yours,

OTTO G. HAUSSMANN.

Philadelphia

"He that is stricken blind cannot forget the precious treasure of his eyesight lost"—Shakespeare.



Rhode Island Society On The Way to Lensdale.—May 25, 1915

The Rhode Islander Always Looks Serious in Pictures

THIRTY members of the Rhode Island State Society of Optometry exposed themselves to the fierce north light of our admiration on Tuesday, May 25th. Our lookout reported the approach of the autos, but said nothing about the ladies.



The Chef saw them, though. Note the devil-may-care, toss-em-around grin on Chef Napoleon's face, don't you? Well these attractive wives and ladies the Society brought with them brought out that human sunshine! They know a chef's the greatest grouch in the world when he has to cook for thirty people.

But here's "Nap" grinning, and later in the luncheon we found him doing the "hot-stove sneakaway," waiting on table and bestowing all those gallant attentions only known to Chivalry and AO hospitality. So the ladies knew they had captured us cuisine and all, and just to prove it, one of them facetiously remarked to us "So we have Napoleon waiting on us?"

Had time permitted we should have danced, for the finely waxed floor of our dining salon brought musical expressions from the fair contingent.

From then on the visit was a foreordained success. President Channing M. Wells welcomed the guests for the Company, following which the visitors repaired to the

comfortable library until the tour of inspection began.

We are afraid that owing to delay in some arrivals and consequent enforced shortening of the program, many of our guests were put through a rather severe and rapid strain in covering so much detail in one afternoon. Over sixty distinct rooms on three levels were visited in short order.

Every possible operation was scanned rapidly under the necessity of covering the Main shop and Lensdale in one afternoon, until even the guides whistled for more wind. But not a member dropped out.

Through the maze of offices and corridors, where it is told that an employee was once lost and guided out for 10 cents, the long procession lingered or hurried as its interest dictated.

Consequently, a weary but enthusiastic platoon came up for air and started out across the lawns, and over the bridge to Lensdale. There we caught them, as per picture, while the ladies refused to be snapped with their husbands and were made comfortable near by.



The trip through the Glass Stores room, Blocking, Grinding and Polishing rooms where 100,000 lenses were grinding rhythmically in the vast room was the most magnificent sight of all. The method of putting a lens through its paces and the

subsequent inspections and testings in the new Lensdale building were there perfectly visible on a large scale. As much as we have been over this same ground ourselves we never yet cease to marvel at the vast scale and beauty of lens manufacture at Lensdale.

The parties finally broke up into small groups and the last visitors to leave — at six o'clock — had spent their remaining hour in the Machine Shop Exhibition Room where R. L. Gordon and L. W. Bugbee and assistants demonstrated the running models.

Among those present were: —

Mr. & Mrs. Thos. H. Tarbox, Pawtucket, R. I.; Mr. and Mrs. Jos. H. Crossley, Pawtucket, R. I.; Mr. & Mrs. Louis Payton, East Providence, R. I.; Miss F. G. Rowley, Pawtucket, R. I.; Messrs. G. Frederick Beane of Providence, Recording Secretary of the Society; H. P. Warren, Springfield, Mass.; W. J. Davis, Woonsocket, R. I.; Dudley Ward, Providence, R. I.; Louis S. Fellman, Woonsocket; G. H. Wild, Fall River; H. C. Barney, Providence; H. F. Vinica, E. Providence; S. B. Sherman, Providence; J. B. Saunders, Providence; E. A. Bradley, Providence; K. P. Armstrong, Oak Lawn, R. I.; A. J. Lenoir, Providence; L. A. Webster, Boston; J. H. Doekham, Pawtucket; C. B. Blake, Providence; F. A. Fellman, Woonsocket; Dr. H. D. Murray, Providence; C. J. Astle, M. D., Providence; F. S. Harvey, Providence.





PRACTICAL TALKS WITH THE PROFESSION



If you have any problems or questions send them along. This is Your Page.

Puzzling Problem Solved by the 7.50 Base Toric

March 25, 1915.

AMERICAN OPTICAL COMPANY,

Gentlemen:—We are sending you here-with a pair of toric lenses for examination. Our patient has been wearing regular shape toric lenses and had us get this pair of English shape. He cannot wear these because there is a shadow or reflection of the object looked at just a little above the object. This shadow can be made to come down and meet the object itself by tilting the lenses out at the top about 30 or 40 degrees. The right lens throws the shadow higher than the left.

We have sent these lenses back to our jobbers and they claim these lenses are O.K. in every way. We cannot agree with them, as this shadow is very distinct, especially in looking at a pair of tweezers or something of the kind.

Will you kindly examine these lenses and tell us what, if anything, is wrong with them?

Yours very truly,

April 1, 1915.

Answer: Your valued favor of March 25th duly received together with the lenses you sent us for examination. We have carefully examined the lenses and we find them very good indeed. Good surfaces and true focus.

We occasionally have brought to our notice cases such as you describe, where the patient is troubled with this apparently false image. We believe that this is due to internal reflections in the lens itself and it is only when a peculiar condition in the eye prevails that this is noticeable. It would require rather a lengthy explanation to perhaps make this subject of internal reflections entirely clear, but we might advise you that we have known cases of a similar nature which were cured by substituting a lens with a different base curve than the ordinary 6 base toric; the idea being that the

wider angle of reflection in the stronger curve lens will throw the image or rather will throw the false image outside the line of vision.

We are pleased to send you through your jobber, together with the lenses which you sent to us, a pair of lenses of the same powers as the ones you sent, but made up in a 7.50 base instead of a 6 base. Have your patient try them. Such questions as these are of much interest to us and we trust that you will not fail to advise us, if your patient notices any relief from the annoyance he has been subjected to with the 6 base curve lenses, after he has worn the 7.50 base curve.

April 27, 1915.

AMERICAN OPTICAL COMPANY,

Gentlemen:—In answer to your letter of April 1st, we are pleased to inform you that our patient has been wearing the lenses you sent us with perfect comfort. This is the first case of this kind we have had and were at a loss to know where the trouble was.

We certainly appreciate the interest you have taken in this matter.

Thanking you again, we beg to remain yours very truly.

Answer: We are in receipt of your valued favor of April 27th and are very pleased to know that the 7.50 base curve lenses corrected the difficulty your patient was experiencing with the 6 base curve.

Great progress is being made at present in optometrical work and we find that the progressive optician and optometrist are taking advantage of the fact, that the factory are manufacturing lenses which are more nearly theoretically correct for different refractions, than ever before. We ourselves are manufacturing a line of

torics in 3, 6, 7.50 and 9 curve, and we find that there is a very general demand for these lenses.

Yours very truly, AOCo.

Definition of Differences in Colored Glasses

Mr. H. T. Reeve:—I had the pleasure of hearing your lecture when you were here on the 20th on colored lenses, and as I could not remember all that you said I am going to ask if you would be so kind as to let me have an outline on the different colors, Smoke, Amber, Blue, Green, Luxfel, Noviol, Akapos, Amethyst. What colors do they take away which would be injurious to a person wearing them all the time?

I have the pleasure of buying all my frames, mgs., etc., stamped AOCo. I have recently tried another line, but it does not compare, or even look like the merchandise your firm puts out.

I wish to thank you, and trust that some day we shall meet.

—Pittsburgh

May 4, 1915.

Answer:—Regarding a little further data on the different colors, I will certainly be very pleased to help out in any way I possibly can.

In the first place you will remember that I stated that we divided all these colored glasses up into two distinct types. The first one is the Tinted, that does not sensibly alter colors when one looks through them; the second is the Colored that alters colors when one looks through them.

Next, I defined what would be our ideal specification for a Tinted glass and decided that it should—

- 1st—be practically invisible on the face, the same as white glass,
- 2d—that it should eliminate all the ultra-violet rays,
- 3d—that it should eliminate all the heat rays,
- 4th—that it should not alter any of the visible colors. We call the

Continued from Page 55

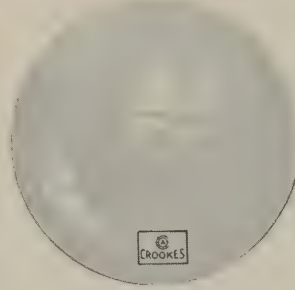
visible colors, red, yellow, green, blue, and violet.

5th—it should be commercially available, i. e., free from bubbles or striæ, and with an even distribution of color in the lens.

Considering now briefly the various Tinted glasses on the market, we must enumerate among them, smoke, amethyst, Luxfel, Non-Viultra, also white glasses; of course, we include among them, the pebble, also very, very light shades of amber, blue, green, Noviol and lastly the Crookes Glass.

The glass that, in itself, combines or rather fulfills the different specifications enumerated above is, we have decided, the light tint of Crookes. Most others all have more or less disadvantages. For instance, the smoke was not particularly effective in cutting out the ultra-violet unless it was in a dark shade; then when it was in a dark shade it cut off too much of the visible light. The very light shades of amber, blue, green, and amethyst were totally ineffective in cutting out the ultra-violet. The same remark applies to white glass, while pebble is the worst of all. Luxfel and Non-Viultra were fairly good, but did not quite come up to the Crookes glass.

Coming now to the Colored glasses; among these we included the darker shades, such as red, blue,



None are Genuine Crookes Without this Sticker

green, amber, Fieuzal, Euphos, Akapos, Hallauer and Noviol.

The ideal specifications for our colored glass were—

- 1st—it must be pleasing in its appearance, both to an observer and to the person wearing them, and therefore to suit everybody, it must be made in different shades of colors,
- 2d—it must filter out the ultra-violet rays entirely,
- 3d—it must filter out the heat rays,
- 4th—it must absorb the violet and some of the blue rays, but let through the red, yellow and green, practically untouched.
- 5th—it must be commercially available, etc.

You will remember then, that among these colored glasses, we decided that the Noviol filled these specifications better than any of them. Blue was especially bad, because it let through the ultra-violet. Green, while it cut the glare out slightly more, dimmed off the rest of the light so much as to make it worthless. Amber, Fieuzal, Akapos, Hallauer and Euphos were very fairly good in absorbing the ultra-violet, but they all dimmed off the other colors to some extent and in that way were inferior to the Noviol.

Now, in comparing the Tinted with the Colored glasses, we have to remember that we would not recommend for general wear a colored glass, because, as I explained, the colored glass is meant to cut out the violet light and some of the blue, and if the wearer were looking through a glass which formed that property right along, then it is highly probable that he would, in time, become color blind to violet and blue and this would be very undesirable. The colored glass would, therefore, be worn just occasionally for sporting purposes chiefly, where one requires keen vision at a long distance. A tinted glass on the other hand, through not altering color values, should be worn regularly in place of white glass."—H. T. REEVE.

Get The Look of Blank Amazement on the Team?

They thought the picture would show the folks what brains and beauty win our games! Note our bright and brassy battery. They should fear publicity!

See that little round face at the end of auto row? That's C. Fred Hill, our office factotum, in charge of baseball. Enter Fred, with pronounced optic twinkle! "Say, Fred got a battery yet?" Fred galvanizes, the old right flicks off a few imaginary coat specs, the ever-ready 'varsity left pets the big chin stubble

and the edging process towards a quiet little corner is under way. "Confidentially" says Fred, "Yes! Capt. McIntyre of the order dept.'s going to lead 'the boys,' Cy Peloquin and Vernon are to pitch and Lavoie and Gilson catch." All this in strictest confidence!! Fred's a regular Coca-Cola diplomat.

First game won against Dean Academy, 13 to 2. Second, trimmed Fitchburg semi-pro. team, 13 to 2. Then Webster 8 to 3. Newport 4 to 3. No defeats. Next?



Gilson, catcher



Vernon, pitcher

Machinery Catalog Ready!

Our new machinery catalog, for which you were requested to send in your name to receive a copy, is now ready and a marvel of exquisite workmanship, beauty, and simplicity of arrangement. In its fifty-two pages are included *sixteen* bench combinations, the most complete and varied list of machinery combinations and accessories yet offered, we believe.

At the time of our last machinery catalog, now obsolete, we had only *two* bench combinations to offer. However, the almost phenomenal development of our machinery department has within the last two years increased our combinations from two to sixteen in number and wrought a radical and advanced change in the whole department, including many entirely new items of machinery.

In keeping with this happy and remarkable progress we have put several months' work into the preparation of a catalog which would be worthy of the subject. Consequently, when it is issued shortly it will represent our supreme satisfaction at having treated the growing subject of machinery in a large, fitting, and complete way.

The smallest optician and the smallest shop, as well as the largest shop, have alike been considered from

every point of view. Our sixteen bench combinations consequently range in price from \$125 to \$418—each combination of the utmost practicability, space and labor-saving nature.

If you have not sent in your name already, do so now, for no shop should deny itself the information which we have classified and bound up so beautifully in a permanent machinery record. *See back cover of this issue.*

Crookes to Order in Onepiece and Kryptoks

April 29, 1915.

AMERICAN OPTICAL COMPANY,

Gentlemen:—I have recently used a pair of Kryptok Crookes lenses with my correction. I am wearing them with much pleasure and comfort and write this note to assure you of my sincere appreciation of these lenses. I have prescribed the Crookes glasses in a number of instances with very gratifying results, so that I am very hopeful that these new glasses may prove very useful. I am additionally pleased now to know that they can also be made in the Kryptok form as this will enlarge their field of usefulness."

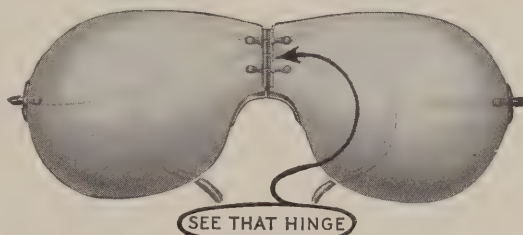
—An M.D.

THE AUTOGLAS Is a Nationally Advertised Motorglass

Trade Mark, Reg. U. S. Pat. Off.

IN calling the attention of the trade to this glass, as we have in the last several issues of the AMOPTICO, and before, we have done so particularly because we believe in the superlative goodness of the AUTOGLAS as compared with other eye protectors and goggles.

It is the glass for the discriminating wearer of an eye protector, and is adapted to every out-of-door use, where glasses are desir-



(Patented May 2, 1911)

able, and it answers every requirement for eye protection.

It is advertised in the National Magazines, that we will gladly supply cut-outs, upon which the glass may be displayed, as well as other window cards, electrotypes, blotters, and circulars, to those who carry the AUTOGLAS in stock, and push its sale.

The AUTOGLAS may be procured from all wholesale optical houses.

Congressman
Paige

C. Fred Hill,
Chancellor of the
Baseball Exchequer



"The Hand That Rocks the Cradle" Sells Fits-U's



Have you heard the story of No. 17M52, our brand new Glad Hand? No? Well, stick around and hear a new version of the Darwinian theory!

It seems that Oswald Beaumont Carson, our ad manager, has shaken hands with most of the trade from Hellgate northward since 1910. During these years he be-

came father of AMOPTICO, issued a catalogue and hit a beer truck with his Oakland.

The other day he swiveled on us, developed dealers' helpus and had his Varsity right put in a plaster cast. Today you are *all* extended an invitation to shake with a life-sized imitation for \$1.50 each. It's like joining the old Buffalo Club—you get my eleven cents—I get it from the public-at-large.

Note the graceful, tapering fingers on our "Wizard of Os" being neatly manicured by Dr. Morton Judd, our clever little plasterer from Paris. Get the delicate curve of wrist and fingers on "doc" and patient!

The thumb and forefinger are grooved to hold the wonderfully artistic Fits-U mountings, six cards descriptive of which go with the hand. Another card on KeeLock completes the series, to which we shall add from time to time.

The uses of this model hand—while its main purpose is to display finger-piece mountings—are varied and practical. It can be shifted quickly and easily;

on the fitting table or in your window it stands out a very striking feature. It faces the observer just as if he or she were about to put the glasses on, carrying a continual suggestion of purchase to the public.

The Glad Hand, though not purposely made so, is likewise adaptable to small eyeglass or spectacle cases which can be inserted between thumb and palm while displaying the eyeglass itself. If desired, several optical specialties such as Amoptiscopes, and readers can be displayed. The jeweler-optician can hang wrist watches or bracelets on it—we should fret!



The pedestal on which the cards are placed is made of bronze green, setting off the white hand attractively. The total height of this life-sized hand is 8 inches. Truly

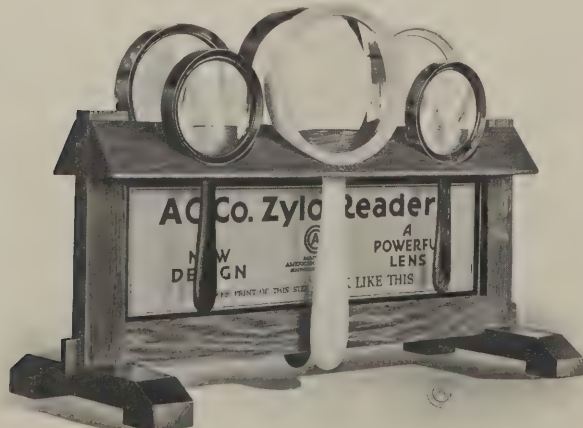
a marvellously beautiful little display with no finer message than to advance your interests; it is an-

other model salesman of great possibilities. No. 17M52 at \$1.50 each, F. O. B. South-bridge.

No. 17M52. (Pat. Pend.) Glad Hand

To Our Zyloware Readers!

We announce the latest fashions and designs. Our zyloware readers, which were the outgrowth of the inter-



est in our Amoptiscopes, have taken a firm hold because of their improvement over the sombre, dusty black readers of long ago.

We now present a line with four such beautiful finishes as only Zylonite lends itself to. The complete line includes dark shell, ivory white, mottled amber and lustrous black. In sizes the lenses run from 2 to 2½, 3 and 4 inches in diameter.

The latest feature is a handsome stand to accommodate the entire four styles. This new stand holds three readers on each side, is finished in rich walnut stain and carries with it a centre card in deep red and soft brown. The readers and stand when set on view in your window, fitting table or show case of any sort afford one of the most artistic and stylish display fixtures it has been our privilege to get up for you. Order now, for this stand will accommodate old and new zyloware readers and add permanently to the distinctive features that make your shop an up-to-date, Quality establishment. Price, \$1.25 for stand only. Order from your jobber.

The New-M94-Drill Promised in April Amoptico

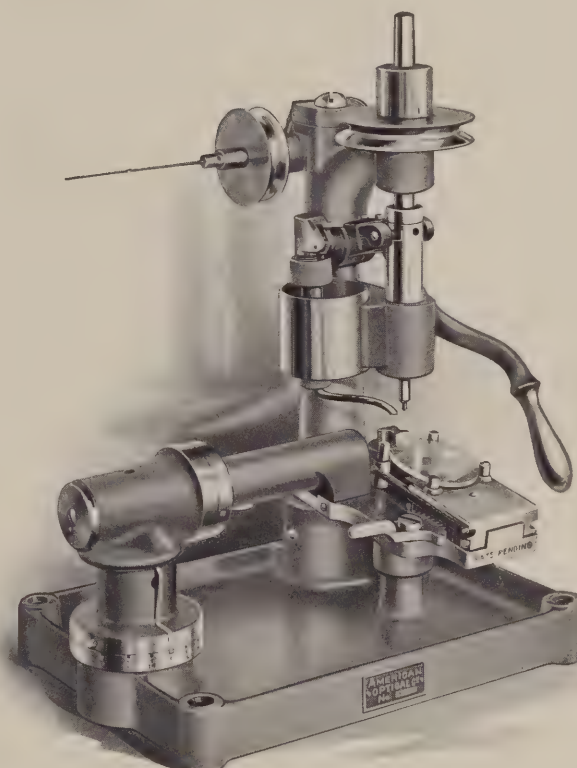
WHEN a lens is drilled by our latest design lens drilling machine—M94—it has been put through a course of sprouts by a quick, simple, accurate method, that leaves a clean, beautifully drilled hole in the lens.

Handy Arrangement. In operating, the left hand grasps the horizontal barrel on the left. The thumb reaches forward to the small lever shown at the left of the lens chuck, and by the application of pressure separates the pins holding the lens. The middle finger contacts with a latch on the underside of the barrel, which releases a lock and permits the lens to be tilted for flat or toric work.

The barrel as a whole, carrying the chuck with it, is removable about its support at the left, which facilitates placing the lens in position, and also permits drilling of the lens on the second side by placing it directly on the pin support under the drill, which ensures absolute alignment of the hole.

Rapid Work. With the automatic mélange feed the right hand is free to operate the drill, insert and remove the lenses. Complete control of the location of the hole, the opening and closing of the chuck, rotation of the same for flat or toric lenses, is at the finger ends of the left hand. Thus, very rapid work is assured.

Another latch, located on the barrel support, engages in various slots for drilling above or below the center.



M94. Patented. Other Patents Pending

The M94 preserves the best essentials in drilling machines that have preceded it and combines several additional features that will commend it to the trade.

Catalogue Number	Description	Price
M94-b	American Drilling Machine with turned diamond drill,	\$50.00
M94-a	American Drilling Machine with splint diamond drill,	43.75
M94	American Drilling Machine with steel drill,	37.50

These drills regularly furnished with mélange feed. If desired without mélange feed, deduct \$6.25 from above prices. Extra for attaching to bench, including M11 countershaft, belts and pulleys, \$9.40.

Approximate net weight 12 lbs. Approximate gross weight 25 lbs. Approximate outside dimensions of case packed for export, 1 ft. 2 in. long, 11 in. wide, 1 ft. 1 in. high. Code word M94-b *Fedriltur*, M94-a *Fedrilesp*. M94 *Fedril*

All Adjustments At Your Fingers' Ends"

©
MACHINERY CATALOG

OPTICAL MACHINERY
TOOLS AND
SUPPLIES

AMERICAN OPTICAL COMPANY
SOUTHBRIDGE, MASSACHUSETTS, U.S.A.
NEW YORK CHICAGO SAN FRANCISCO
EUROPEAN AGENT: AMERICAN OPTICAL COMPANY, LTD., LONDON

NOW READY
Send for your copy

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. IV

July, 1915

No. 4

Crookes Lenses for the Vacationist

offer a new and very profitable sales opportunity that will put an edge on even summer dullness. The dark B tint absolutely removes all glare and cuts out the harmful ultra-violet and heat rays.





A Career of Noble Distinction—

London, June 18, 1915.

SIR WILLIAM CROOKES, F. R. S., yesterday celebrated his eighty-third birthday quietly at his London House, amid messages of congratulation from the nobility, visits from colleagues who called to pay their affectionate respects, and sincere tributes from the general public.

Although now past fourscore years Sir William is still remarkably active. He can be seen daily engaged in his researches with the scientific enthusiasm of the great Edison across the seas. In pursuing the researches that won him knighthood and fame as the discoverer of monium and thallium and the Crookes tubes, he blazed the way for the discovery of the X rays by Roentgen, to the incalculable benefit of humanity.

As recently as 1913, after four years of experiment, he reappeared in the public eye with a new optical glass—named after its distinguished inventor—capable of preserving the eyes from certain injurious rays.

The English public—in the midst of great catastrophe—has turned aside for a day from its distractions to remember one of its foremost scientists—a man whose life work has been devoted so unselfishly to the cause of serving Humanity.

The great honors that have accumulated with fame have been the accompaniments rather than the objects of this noteworthy career. He has been honored by all peoples because his services to man know no national boundaries. We all join in paying our sincere respects to Sir William Crookes, and congratulating ourselves that he is still notably active in the Service of his fellow men at eighty-three. . . . London.

Is It Strange Then That Sir William Crookes

Tinted Glass should spread to the United States and carry with it a *remarkable combination* of qualities?

The following combination from the Scientific, Æsthetic, and Commercial points of view give eight reasons why Sir William Crookes Glass is superior to all Tinted Glasses:

I. Scientific:

1. Absorbs more ultra-violet than any tinted or colored glass of anything like an equal depth of color. Ultra-violet rays are unnecessary and harmful to vision.
2. Absorbs 42% heat rays in "A" tint, 47% in "B" tint, but for an all 'round glass like this, "heat" ray absorptions are not absolutely necessary; only in welding, etc., under terrific heat. The heat ray is unnecessary and harmful to vision.
3. Is neutral tinted.

II. Æsthetic:

4. *Does not alter color values:* when colored cloths, for instance, having small differences in color, are matched up, Crookes is seen to allow close matching without altering the colors.
5. *Invisible:* looks like white optical glass, a remarkable quality, the absence of which in other glasses has been responsible more than anything else for public prejudice against them. The public has only used unsightly colored or tinted glasses for want of something better. Now, we have the invisible, beautiful Crookes lens.

III. Commercial:

6. *Quality* (Commercial availability) is excellent: No bubbles or striæ, and distribution of color is *even* throughout: color is permanent.
7. *Similar to hard crown glass:* takes and retains an excellent polish; a defect in many others, particularly flint glasses.
8. Can be made (to order) in One-piece and Kryptoks, as perfect as white glass.

The "A" tint is for normal everyday wear, movies, etc., where white glass is now used. Crookes glass "B" tint is designed for outdoor use against glare. The only glass that can be properly compared with it is a smoke of equal density of color and then the "B" tint Crookes has the advantage of cutting off considerably more of the ultra-violet and the heat rays. It will, therefore, give greater relief from glare out of doors than smoke of an equal or even greater density. Glare is caused by ultra-violet and visible rays in excess of what are required.

All These Qualities Preserved in the One Lens

Amoptico

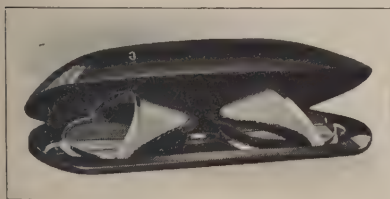


Twenty-Five Historic Years of Case Making

IN these days of Victrolas it is no longer necessary nor desirable to listen to a case whose every opening and closing means one additional musical squeak in our young lives. There are still many of these music boxes in our midst, which we modestly admit are not ours, and when we meet a friend whose ear for music has been completely turned by one of these archaic inventions we say "get thee behind me, etc.," and start playing a snappy little prelude of our own with one of our stylish thin model cases and its little click that tells you your Eyeglasses are held in for keeps. There is nothing so soul-satisfying to the Eyeglass wearer as that little squeakless snap of the cover that tells him, without a glance, his expensive lenses are safely enclosed.

The Development of Cases

We have followed the development of Cases for several years. We first met Cases when it was considered fashionable to leave one end exposed. We

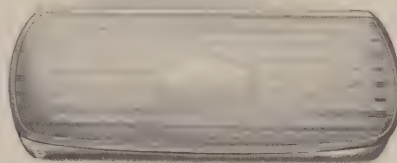


No. 357 Japtol—Patented

We saw them change from paper into leather, imitation leather, steel, gold and silver, until now we are elected to a life membership in the Case Club. We hold an active and honorary position by virtue of our long acquaintance and familiarity with the whole Case family. In fact we were the first manufacturers to market the steel leather-covered self-closing case.

continued their acquaintance through the days when someone bethought himself of this and instituted the button covering for end and sides.

We met one of the members of Case family on the street the other day—an Optical genius was using this ancient open-ender for a cigar receptacle. This is the first case we ever knew where an individual well along in years changed his entire life's habits.



Pat'd

No. 705-15 Silver, for Small Eyeglasses

By virtue of our exalted position, therefore, we are now going to give you a few bright little tips on Cases, their birth, development, habits, looks and weaknesses. These are things every dealer should know.

Beginning of Modern Cases

The modern Case was born about 1890 and represented several definite motives in the manufacturer's mind. In the first place he foresaw the necessity of providing attractive coverings for his products. The manufacturer realized that a pair of Spectacles or Eyeglasses encased in an unsightly covering did not help his products, but hindered them. So he set to work to improve the appearance and design of the Cases and here it is interesting to note that Cases are one of the first of the attractively gotten up containers in any field of manufacturing. Today the market is flooded with attractively enclosed products of all kinds.

System and Uniformity the First Step

The second, and ruling motive, however, in the manufacturer's mind at this time was recognition of

"Thou shalt see, thy eyes shall be thy judge"—Shakespeare.

the fact that little or no attempt had been made to improve the existent case line, or develop machinery by which uniformity, quality and systematic standards of production in Spectacle and Eyeglass Case manufacture could be achieved.



Lizard Grain—Patented

Twenty Years Have Seen Radical Changes

From these two motives, allied with other lesser aims, began the development of modern Spectacle and Eyeglass Cases. The entire Case-making industry in the twenty odd years since then has undergone a complete and rapid transformation.

Machinery, Selection and Designs Improved

Modern machinery, supplemented by expert inspection and supervision has replaced the old crude, rule-of-thumb methods. Intelligent selection of the best materials and the application of special patented features to the goods themselves have, in the net result, developed a product unapproached in character, serviceability and mechanical excellence.

Designs have been made the subject of constant study in keeping with the greatest service and beauty. As a result we are now offering a line to meet every requirement as far as we can possibly see, to satisfy the most fastidious. It does credit not only to the manufacturer but to the jobber and dealer, and the sharp growth in the sales of Cases following the initiation of this policy in the Nineties has long since testified to the wisdom of this foresight. Consequent events have confirmed it.

First Changes in Forms Justified

One of the first and most necessary changes was from a paper form open-end goods to the patented self-closing type of metal form Cases. This was a radical change but there can be no question now of its wisdom and benefit. These patented self-closing metal Cases have constantly grown in number and design until we now have a line of twenty-six distinct coverings, while the number of form designs is even higher. Along with these fundamental types of form and finish have gone an unlimited amount of detailed refinements in design, springs, joints, new leathers and finishes.

A Complete and Unique Case Machinery Line

The development of the machinery itself marks a wonderful development in the Optical Case business and the line we offer is the complete product of these years of AO machine evolution, on which patents have been taken out from time to time. So that twenty years in the development of machinery has brought to our line the most advanced and fully protected ideas, designs and covering processes.

Therefore, as it stands before you today the American Optical Co. feels prepared to give you handsome results from the priceless experience and experimentations of a score of years' work in our latest thin model Cases, which will meet every variety and necessity of demand.

We have been singularly fortunate in our choice of a Case line, for with few exceptions those lines which we have advised have had a ready and satisfactory sale with most of our customers.

Some of the Famous AO Leathers

This is particularly true of our black water grain "J" leather which is now carried in stock. This leather is as perfect as human ingenuity can make it in direction and quality of the grain, freedom from such imperfections as scars, holes, scratches or stains. It is applied to the steel form with a waterproof cement

which prevents the moulding of the leather or the rusting of the steel form.

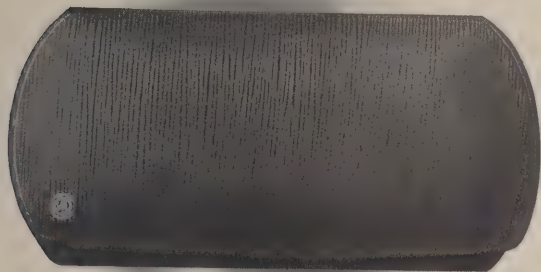
What is Known as "G" Leather

Second in popularity, practically on a par with the "J" leather has been the genuine "G" reverse grain



Patented. No. 725. "G" Leather

leather which preserves the beauty of the original grain through a special dry-covering process. This leather is made of the best grade material, vastly superior to the cheap, poorly tanned goat or sheep-skin skivers so commonly used, which are soft and have a tendency to rub.



Patented No. 725. "G" Leather

European Demand for the New Lizard Grain

One of the newest lines, the "Lizard Grain," is a striking example of dealers' appreciation of a Case covering at moderate price that will give him a combination of beauty and wearing power. This Case has only lately been put on the market, and yet it has met with instant success not only in the States but in Europe and South America. The reason for this is that the genuine lizard, always noted as a tremendously long-wearing case covering, has been successfully reproduced in the lizard grain. Its uncommon beauty, its sturdy resistance to wear and its moderate price, have given it an impetus such as few lines ever enjoyed. The color and grain of this imitation grain is truly exquisite, and in line with most imitation leathers of today, requires an expert to distinguish it from the genuine.

There are many other well-known lines which we carry such as the "Vicar," the "Long Grain," the "Skiver," "Chamois" and the genuine Morocco, Pig Skin, French Calf, Alligator, Russia Calf, Lizard, Steel, Japtol and Polished Aluminum metal.

Japtol—a Rough-and-Tumble Metal Case

Among the metal finishes the Japtol, with its lustrous black enamel finish has taken the motoring trade by storm, for it supplies the long-felt want for a rough-and-tumble case at a moderate price which at the same time possesses attractiveness in design and finish. Its durability is unquestioned and has been demonstrated time and again in practical usage.

The Polished Aluminum Line is Stylish

The Polished Aluminum Case is one of our most important specialties. Distinctive characteristics

are style, lightness of the metal itself, combined with an attractive finish and color, and the variety of styles in which it can be made. It appeals to the discriminating taste of our best class of patronage. The oxidized styles which can be furnished with background in colors make a handsome addition to this line, especially to the Holiday trade.

In addition to the foregoing there are some of the most expensive and specially made artistic Case coverings in genuine French calfs, moroccos, et als., that we are completely equipped to supply at short notice.

Immediate service can be given on those lines which come more nearly under the head of staples such as "J" and "G" Leathers.

Linings are of Particular Excellence

In our entire line we call particular attention to the quality of the linings used. In all our regular and patented self-closing styles an excellent grade of velveteen is employed in colors to match the covering material. Colors are rich, deep and do not fade. In our better grades of Polished Aluminum Cases a better quality of silk velvet is used while in the Vicar, and regular Polished Aluminum styles a ribbed or corduroy velvet gives an attractive appearance. Chamois linings can be furnished if ordered in natural or other colors. There is a great difference in the quality of chamois on the market and a careful comparison of materials should be made first before considering competitive prices. The tiny unobtrusive spring used on our patented cases allows the lining to fit smooth and hold firmly.

We are Qualified to Supply and Advise

With all the manifest advantages arising from the evolution of one line of Cases over a period of twenty or more years we can assure you of satisfaction. Your jobber is qualified by long experience to give you unbiased and sound advice as to the most marketable AOCo Case lines, and from our infinite variety we feel certain of being able to help you to command an ever-increasing and stable clientele.

Can We Be of Service?

Even in the standardized, uniform quality AO lines of today there is such a vast variety of finishes, coverings, and designs adaptable to every occasion that we feel sure you would do well to consult your jobber with a view to obtaining the benefit of his valuable experience in choosing the most advantageous line for yourself. He will welcome inquiries by mail or in person and please feel no obligation in seeking desired information on any subject in which service to you can be rendered. Specify AOCo Cases.

President Todd Brought Us a Great Crowd of Mixers

MEN, which is safer—to leave the wife at home or bring her along? Nix! Answer it yourselves—we're not married.

Well, on with our "Fabers in Slang." The Rhode Island Society brought the ladies along. When they saw the vast AO they thought "gracious, George must be a valuable man to that company."

So up went George's stock, and several of these better halves almost regained their ante-marriage popularity.

That's the way Rhode Island did it. Now, along comes the Connecticut State Optical Society. No ladies! They became popular at home too! Down yonder note the results! Many a good neighbor was raked over the coals that day.

Up here the Society acted like it was really independent. They kidded, ate and breezed around like regular bachelors and handed us the best little day of pleasure we've had in many moons, along with Nagel of the Globe—a prince.

So the day went speedily and everything passed off smoothly. There was an earnest word of welcome by Pres. Channing M. Wells in which he referred appreciatively to the neighborly visit of the Society and particularly to the second homecoming of M. A. Linnell of Moosup, Conn., who had visited Southbridge fifty-three years before as a young man.

We took "the bunch" through every department and every process—they saw the gold, gold-filled, fingerpiece, white metal, machinery, and advertising departments. To us the most interesting feature was the adver-

tising department; the guides stopped outside and spoke highly of us—told about our brains and all those things hungry guides will say when the underpinning's slipping.

We sat down to a feast—thirty-six of us—with Pres. W. S. Todd, Mr. C. M. Wells, J. A. Masterton, A. M. Glover and Supt. H. W. Hill at the head table.

Then, after some coffee and good "smokes," off for Lensdale and through the magnificent grinding and polishing rooms and the inspection buildings. Along the line of guides ran the 'side comment—"this crowd is a good bunch of mixers," "they're a live bunch of good boys," "Let them have the plant," etc. They made a hit and we appreciated the hail-fellow-well-met spirit in which they came. Not suspicious, or hypercritical but a society out for a good instructive time with a generous mixture of sympathy for the manufacturer's point of view.

We doffed our hats regretfully, at their departure. As they disappeared down the road we remembered the parting exclamation of an elderly member, who ejaculated "someplant" with all the spontaneous enthusiasm of youth. *Some Society.*

Among those present were:

W. S. Todd, President; G. H. Moon, Willimantic; J. A. Masterton, Secretary; A. M. Glover, Salt Lake City; J. F. March, Norwich, Conn.; M. A. Linnell, Moosup, Conn.; P. Gregory, Springfield; J. C. Tracy, Willimantic; John Todd, Springfield; Geo. J. Ferron, Hartford, Conn.; J. W. Bromley, Southbridge; F. A. Wald, Southbridge; S. H. Grater, Waterbury, Conn.; J. Wheeler, Waterbury, Conn.; D. W. Haywood, Waterbury, Conn.; A. Girouard, New London, Conn.; G. E. Shaw, Putnam, Conn.; F. T. Preston, Danielson, Conn.; M. C. Isbell, Ansonia, Conn.; G. A. Comstock, Ansonia, Conn.; L. L. Gregory, Derby, Conn.; C. H. Tomlinson, Ansonia, Conn.; F. C. Chidsey, New London, Conn.; H. F. Myers, New London, Conn.; G. B. Nagel, Boston, Mass.; and E. R. Corey, Middletown, Conn.



"Some of the prettiest and best in New England." — A. Girouard



Deu Tell!



There's a Splendid Little Chance With Invisible Eyewires!

THE extraordinary delicacy and neatness in appearance of the invisible eyewire, which we announced in the January AMOPTICO, has created for it a demand beyond our fondest expectations.

As we prophesied then, it was destined for a great popularity; subsequent events have shown how it has taken with the trade and public. Its possibilities as something new and novel are excellent for the man who wants a nice profit and knows the attractiveness of an article of this sort to the general public.

The latest style, illustrated here, is a 1/10 12K No. 03112 Fits-U frame. The Alumnico eyewire is flat and grooved to accommodate the lens firmly. Bridge and eyewire are integral, while just below the



New Style No. 03112, Flat Invisible Eyewire

spring is a screw joint, inconspicuous and giving the eyewire greater strength. The trade price of this beautiful little style is \$8.50 per dozen.

In addition to the foregoing we also announce a new 1638 1/10 12K (oo eye) spectacle with the alumnico eyewire. Trade price, \$6.50 per dozen. In this

style likewise the bridge is soldered to the eyewire. You will not be able to set the world on fire with sales of this neat little product, but we feel that there is a profitable little business in it for the man who realizes its novelty, neatness and subtle suggestion of style—that “something new” that people are constantly on the watch for. Think this over and order from your jobber.

Here's the Commodore Back With a New Spring Story

I was up on the old stool figuring up Sharkgrip profits when a cool snout poked me one in the back and there was old A. O. Finny, back from a trip. “Well, Commodore,” sez I, “what’re you nosin’ around here for?” “Oh! not’n,” he comes back.

“Say,” sez he, “that was a great old run you gave me in th’ AMOPTICO. The folks East took me up like I wuz an Indian prince. Some time too. Left the children and relatives there and came back here ’cause my wife expects a *light spring* Sharkgrip and I want to be in at the launching.”

“Oho! So that’s it?” I bites off. “Old Jones told

stiff, strong spring I’ve been hauling around. The old spring’s still great, you understand; but these



pads I carry are so powerful I don’t need the heavy feller—so I got out this light spring.”

The Commodore was right too. The new light spring Sharkgrip guard does the work of the present heavy spring because Sharkgrip pads have a strong, pinchless grip that requires only a minimum spring pressure.

The predominating feature of the Sharkgrip Mounting—“*the strongest grip with the lightest spring pressure*”—lies in the fact that it is *invaluable in cases where ordinary mountings absolutely fail to fit*.

This has come to be—with the new light spring pressure—the great distinction of the Sharkgrip. Order the Sharkgrip with the new light spring from your jobber. Splendid profits and an unsurpassed mounting.

A Lens Is No Better Than Its Surfacing

A Western Optometrist recently wrote us, saying that he had prescribed Crookes Glass successfully for everyone but himself. His own pair, he added, blurred toward the edge of the Lens, and he wanted to know what the difficulty was, after having spent some time in the endeavor to find out.

The Lenses were sent to Lensdale, and it was discovered that the surfacing had been imperfectly done. With our new No. M28 Toric Machine we took the same Lenses and resurfaced them to the correct prescription, in consequence of which the customer’s difficulty has been removed.



(Patented)

me he had a new light spring prepared. Good thing isn’t it?” I queried.

“Yea! bo!” adds Finny, “much better’n the old

Watch for the September Amoptico!

In our September AMOPTICO comes the big announcement of winners of the Rice Leaders of the World Association's great Window Display and Idea Letter Contests. Throughout the forty members of this

great association these contests have been running for a year past.

Some of the best window trimmers and constructive brains in the country have been concentrated on winning these contests. You may be among them.

So watch September AMOPTICO for the winners and prize winning photographs.



In the meantime New York has been stirred by the awards of the Rice Association to the leading Salesmen of the World—one hundred and fifty in number.

On June 25th all the New York papers ran full-page articles featuring pictures of these leading salesmen and their achievements.

Before an imposing assemblage the awards of the Forty Overland Automobiles—the Grand Prizes—were made Saturday, June 26th, from a grandstand especially erected for the occasion at Riverside Drive and 121st Street. From there the distinguished guests, including the Hon. Job E. Hedges, were driven in the prize cars down Fifth Avenue to the Waldorf escorted by a mounted police detachment.

After a reception and banquet, a brilliant gathering of 400 members and invited guests, in the Grand Ballroom of the Waldorf that evening, heard Hon. Job E. Hedges present the other prize winners with \$35,000 in gold watches.

Watch the September AMOPTICO for your name among the Window Prize Winners!



It Was Not Long After Franklin—

That experiments were begun on the production of a one-piece lens—two perfect spherical curves on a single surface. All attempts failed. Meantime other forms of bifocals made by combining two pieces of glass by cementing or otherwise were successfully marketed as being more mechanically perfect.

The Uni-Bifo Luxe* Lens

was finally made a great success. Two curves are now ground by such ingenious methods and such precise machinery that no line of aberration is apparent between the two. The perfect bifocal of a single piece of glass is a fact.

The Uni-Bifo Luxe Lens

represents a most wonderful achievement in ophthalmic lens grinding. It is theoretically and practically the perfect bifocal lens. It absolutely eliminates many of the objections to the ordinary forms. There is a total absence of colors.

The Uni-Bifo Luxe Lens

is now being supplied by the American Optical Company through licensed jobbers. You can order this lens on prescription with either of two sizes of reading portion, 19mm. round or 30 x 15 mm. made in toric form only.

*Reg. in U. S. Pat. Off.

Announcement!

With each 500 Fits-U Lens Cleaners we are prepared to furnish free of charge one large Fits-U Lens Cleaner, size 11½" x 15½", for use at the fitting table. Order from your jobber, \$7.50 per thousand. No orders accepted for less than 500.

Just a Few New Dealers' Helps

A Vest Pocket Edition of Window Cards

WE had such phenomenal success with our set of 17D4 window or counter cards that we have now prepared this

exquisite—No. 17D5—set of twelve cards in buff and light blue.

They are printed on light buff sunburst stock, $4\frac{1}{2}'' \times 3\frac{1}{8}''$, with ornate border in robin's egg blue and hand lettering in rich chocolate brown. Each set is compactly enclosed for mailing in a neat flat box of like design.

The New Glad Hand

Two New Electros

These colorful little salesmen reflect that subtle credit on the dealer and his goods that attractive window displays always inspire. Our method of brightening your shop and window with these Vest Pocket cards will be found one of our most welcome contributions toward increased sales and prestige. To cover cost of packing and mailing we make a nominal charge of \$0.25 a set. Write in for a package—No. 17D5.

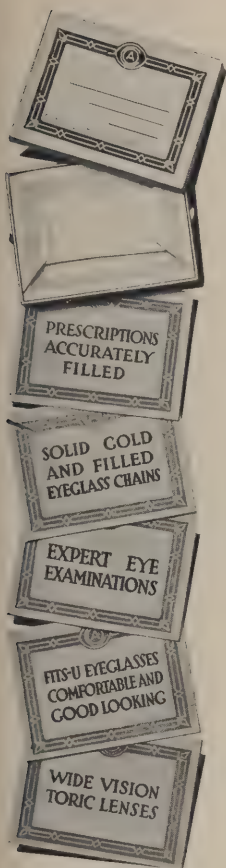
Fits-U Tags at a Premium!

Save your Fit-U Tags! Until further notice we will redeem them in advertising helps. Fits-U tags are worth 25c per dozen in advertising matter.

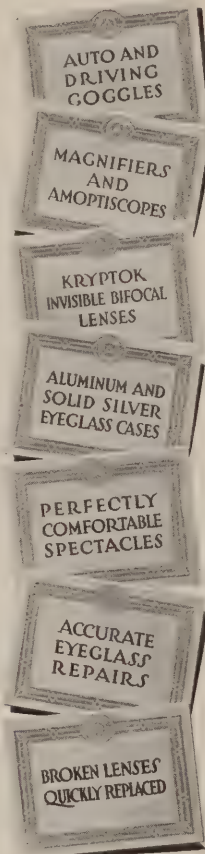
Model Men Glad Hand, envelopes, circulars, letterheads or any specified advertising material for which we make a charge, can be obtained by submitting tags to full amount. No tags for less than full amount accepted.

Attach tags to your letter in which you state article wanted and address the Advertising Department.

"Make Every Day a Tag Day."



Set No. 17D5



Set No. 17D5

We've All Heard of the Knights—

OF Columbus, but nobody's told us how he spent 'em! Nor have we heard how our Model Man 17M30 has been spending his time with the trade. They only told us how he looks! Enuf sed!

But of our newest model—the Glad Hand 17M52—we do know. It is said to be feeling well and grasping every opportunity to show off to an admiring public. Ergo, boys here's your best bet! A versatile hand that holds everything besides.

Fits-U's; cases, wrist watches, bracelets, and eyeglasses. Isn't it worth \$1.50? We should shay sho!



It Wouldn't Be a Bad Bet

TO guess that, small as the cut is, these eyes attracted your attention about the first second you turned to the page.

In short this single column electro—No. A42—is an attention-compelling ad to get you results in your local newspaper. At the head of an advertisement on Fits-U's it will prove a strong pulling power for sales results. We also have a larger electro, No. AA20 which, is a double column cut and of still greater effectiveness.

Order by numbers—A42 or AA20.



No. A42



New Motorglass Catalogue

Sixteen Pages of new prices and new styles in our Motorglass Catalogue just off the press.

Write in immediately for your copy. Address the Advertising Dept.

Let Us Talk Some Common Sense About Fits-U's

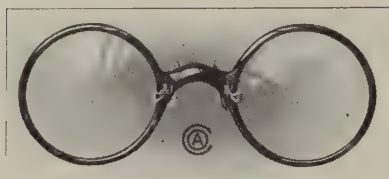
LET us consider finger-piece eyeglasses in the light of a purely business proposition as effecting the interests of the wholesale trade, the retail trade and, finally, our own interests as manufacturers, with a view to establishing in your own mind the fact that from an out-and-out selling point of view, the Fits-U is the most reasonable eyeglass for your every-day requirements.



As you perhaps have already noticed, the sale of finger-piece eyeglasses to-day is competitive insofar at least as prices are concerned. This competition is, for the most part, a healthy indication of trade conditions which tends to insure stability

and fair prices for those few styles which might be classed as staples. Outside of these staple types are of course many more or less indifferent kinds of finger-piece goods for which somewhat exaggerated claims are frequently made on special features of construction. In most cases these goods have failed in practice to measure up to the claims made.

Many of these special types are offered at cut prices sufficiently below market figures to cause all careful buyers to suspect the quality and merits of the goods. The use



Patented. Patent Pend.
R3112 Fits-U

of such products has a tendency to bring distrust and discredit upon the optical trade. Also there are some offered that to all outward appearances look excellent

but in reality make for an increase in cost to you without an opportunity for increasing your profits, and causing you to lose patients.

The thoughtful dealer will reason that keen competition in finger-piece eyeglasses has already had the effect of regulating the price situation to a point where it is fair and equitable to all parties—retailer, jobber and manufacturer alike—on staple forms of eyeglasses. In the face of cut-price competition these have remained at their present prices and have become successful. They are the logical types to consider in selecting a finger-piece eyeglass for your regular Rx practice.

The interests of your customers do not depend wholly on the matter of prices but rather on satisfaction in comfort and service and these qualities have a direct bearing on your success or failure in the optical business.

You cannot afford to sell any finger-piece eyeglass that is not of high quality in material and workmanship, that cannot be readily and properly adjusted to give relief and comfort to your clients. Therefore, it is well to look closely at what is offered and not be deceived by a cut-price or a complex construction. Both involve future trouble for you which will surely reflect on your good reputation and standing.



Patented. Pats. Pending.
AOCO Fits-U (Ovalex Spring) No. 03112

We have generalized on the subject with the single purpose of putting this problem fairly before the optical trade as a business proposition. We believe in Fits-U Eyeglasses because we know what we are giving to the optical trade in return for a fair profit to all.

It is even natural to assume that the American Optical Company can and does produce the best finger-piece goods, having been first in the field and having devoted expert thought and experiment to this subject for many years. The experimental stage is now long past and the AOCO finger-piece goods have become a staple product.

We assert unqualifiedly that the AO-Loop construction, which is a feature of Fits-U finger-piece eyeglasses, is the most important eyeglass improvement since the invention of offset guards. It has entirely revolutionized the fitting of eyeglasses. The various structural elements of Fits-U Eyeglasses are protected by patents. Nothing has been left undone in fact, to secure for these products the approval of a discriminating trade and public. The best endeavor is put forth to protect the interests of both. Fits-U Eyeglasses are the originals not the imitations or copies.

Viewed from every reasonable standpoint, Fits-U Eyeglasses are the best, most satisfactory and profitable finger-piece goods you can carry.



A Series of New KeeLock Newspaper Ads.

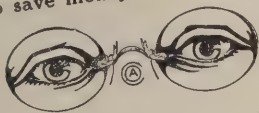
WITH these three newspaper cuts and several more that we will soon be ready to announce, we have written an attractive series of KeeLock newspaper ads. Each cut has a change of "copy" for each week. By running these cuts in successive weeks and then repeating them with our change of copy, the most effective results

should be obtained in your locality.

A series of ads with these eight cuts and three changes of copy each, will give you a number of weeks of *consistent*, effective advertising. They will keep your name before your local public and bring you increased prestige as the up-to-date dealer who has the latest styles. The KeeLock

and the Crookes Series form a systematic plan of advertising for you for many weeks extending well into next Spring if properly pursued. The alert dealer will see his opportunity. These first three are now ready and will be sent free to KeeLock dealers on request. Prepare now for the Fall Campaign.

If we could show you a way
to save money on glasses



You would be interested if it did not mean sacrifice the quality of the mounting or the lenses. Broken lenses are an item of expense—unnecessary expense. We have a new way of fastening the lenses in the mounting with *cement* instead of screws. Barring serious accident, lenses in KeeLock mountings will never break or come loose. KeeLock is worth investigating if you wear rimless glasses.

(FIRM NAME HERE)

Print this copy and cut on (Date) 2MS

9/10

of all eyeglass break-
age is saved by the
Kee Lock

What is KeeLock? It is a mounting that is *cemented* to the lens—no hole to break out—no screw to work loose.

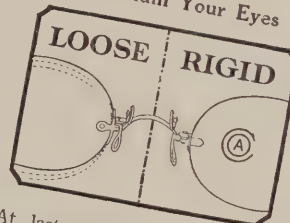
Neater, stronger and simpler than any mounting yet devised.

Let us demonstrate the many KeeLock advantages.

(FIRM NAME HERE)

Print this copy and cut on (Date)

A Loose Lens
May Ruin Your Eyes



At last we can offer eyeglass wearers a mounting that never works loose—a mounting that is locked into the lens and held firm by means of cement. It is called the

KeeLock

a new idea, but so attractive, so simple and so strong that you will want it the minute you see it demonstrated. May we show it to you?

(FIRM NAME HERE)

Print this copy and cut on (Date)

THE DOMINION LIFE ASSURANCE COMPANY

407 KENT BUILDING - 150 YONGE STREET

TORONTO

February, 11th, 1915.

Mr. J. C. Williams.
131 Yonge Street.
Toronto.

Dear Sir:-

Regarding the lenses which you ground for me from the new Crookes glass about the first of last month, I wish to state that I am surprised and pleased with the results obtained. As you know I am troubled with what is called "Night Blindness", and have procured glasses from numerous concerns without satisfactory results, but with the Crookes Glass I am decidedly more sure of my steps in the dark, and I predict for the Crookes Glass the way YOU grind them a wonderful future, and do not hesitate to recommend them in every instance where light is irritating to the eyes.

I remain,

Yours very truly,

Ernest Barry

June 28, 1915.

Gentlemen:—I have used Crookes glass in quite a number of my prescriptions and have had very good results where the same **R** in ordinary glass failed to give results at all.

(Signed) S. H. NEEDHAM,
Lowell, Mass.

June 29, 1915.

Gentlemen:—Thank you for so promptly sending me the booklets on "Crookes Glass." The oculists are just beginning to wake up to the existence of it, and so I was at a loss to furnish reading matter, until the day I wrote I did not know there was anything published except what I had read in the various journals. Two men in town are now prescribing quite a few of the new lenses and report good results.

—JOBBER.

A Telegram from Texas

"Please send us at once one dozen pairs each Crookes Glass flat and toric blanks, four millimeters thick, etc. Results in intense glare here are remarkable.—G. O. C.

Chart of AOCo Colored and Tinted Glasses for Ready Reference— Where and What to Recommend

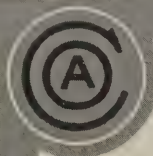
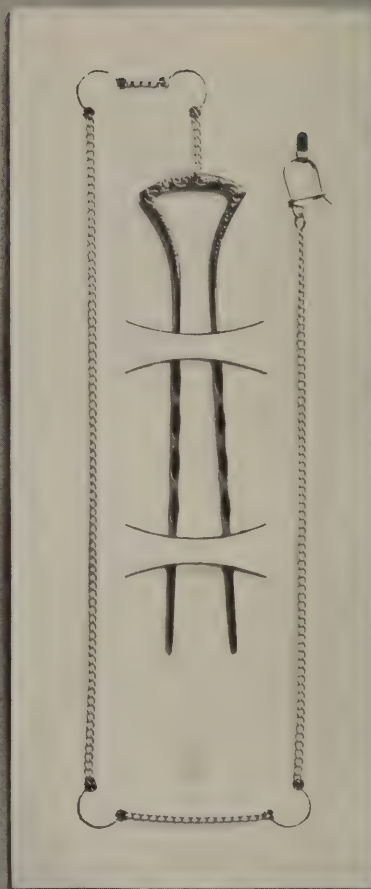
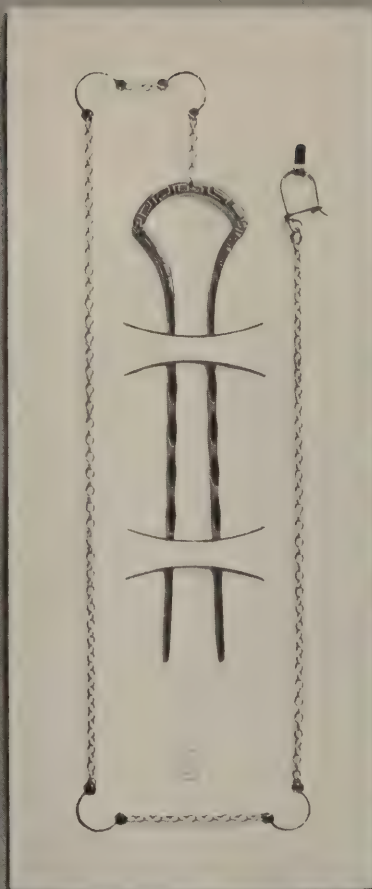
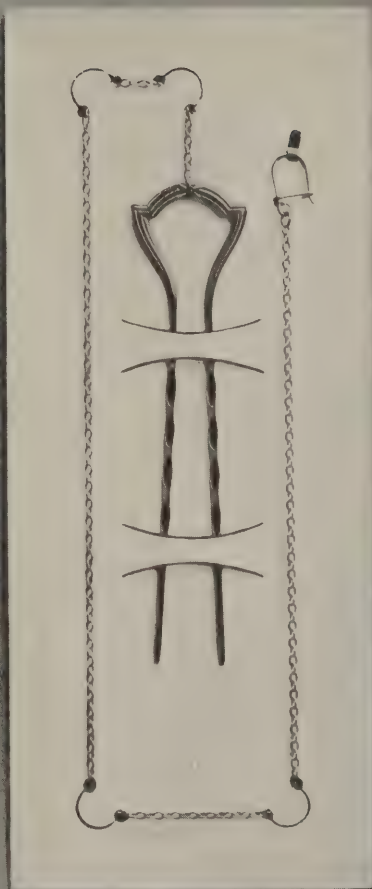
With Recommendations of Which Glasses to Use and to Avoid Under Varying Conditions

Those Not Recommended Are Marked With a Dash.

*Crookes Glass Can Be Made to Any Prescription and One-piece and Kryptoks.

	WHITE			TINTED GLASSES—OF NO SPECIAL COLOR										COLORS ARRANGED HERE IN THE ORDER OF THE SPECTRUM—FROM RED TO VIOLET																				Any Color Weld- ers
	Pebble	Crown	Flint	Sir Wm. Crookes*		Luxfel	Amethyst		Smoke				Red	Orange	Amber	Yellow			Brownish Green	Yellow Green	Yellow Green	Green				Blue				Violet				
				A	B		A	B	A	B	C	D				Noviol	Fieuzal	Euphos	Paros	A	B	C	D	A	B	C	D	A	B		C	D		
I. COMMERCIAL QUALITIES:																																		
1. Appearance of Colors on Face.		White		Excel- lent Like White	Ame- thyst Smoke Slight Color	Good Like White	Good Pink	Fair Dark Pink					Smoke or Grey	Red	Orange	Brown	Light Yellow	Lemon Yellow	Dark Yellow	Dull Brownish Green	Dull Yellow Green	Bright Yellow		Green					Blue		Violet	Mirror- like		
2. Permanence of Color.	O. K.	O. K.	O. K.	O. K.	O. K.	Good	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	
3. Hardness: Including resistance to scratching and capability of taking good polish.	O. K.	O. K.	Fair	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	
4. Quality of Stock: Uniformity of color and absence of bubbles, cords, strains, etc.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	
5. Permanence Under Heat: Capa- bility of being made into Kryptoks.	Will Not Soften	O. K.	O. K.	O. K.	O. K.	O. K.	Poor	O. K.	O. K.	O. K.	O. K.	O. K.	Not Used	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	O. K.	
II. SCIENTIFIC QUALITIES																																		
A. FOR NORMAL CONDITIONS OF WEAR: Indoor use both day and night under normal light conditions.																																		
1. To absorb dangerous invisible ultra-violet rays.	—	Poor	Fair	Very Good	Good	Poor	Poor	Poor	Poor	—	—	—	—	Fair	Good	Very Good	Very Good	Very Good	Very Good	Good	Good	Good	Good	Good	—	—	—	—	—	—	—	—	—	
2. To absorb dangerous invisible heat-rays unimportant.	—	Poor	Poor	Fair	Fair	Fair	—	—	—	—	—	—	—	Poor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
3. To let through visible colors and preserve color values.	—	Very Good	—	Very Good	Good	Very Good	Good	Fair	Good	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
B. FOR EXCESSIVE NORMAL CON- DITIONS OF WEAR:																																		
1. Indoor use, where much reading of small type or fine work is done under poor lighting conditions.	—	—	—	Good	—	Good	—	—	—	—	—	—	—	Good	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2. Outdoor use, where brilliant sun- light is troublesome when re- flected from snow, water, pave- ments, sand, mountains, etc., and where color values are still pre- served.	—	—	—	—	—	Exce- lent	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
3. Outdoor use, where best vision is necessary and glare must be re- duced, such as for golfing, motor- ing, shooting and where long dis- tance vision should be enhanced.	—	—	—	—	—	—	—	—	—	—	—	—	—	Fair	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
C. FOR ABNORMAL CONDITIONS:																																		
1. Where brilliant lights or excessive heats are encountered: as in test- ing lamps, in furnace work, weld- ing operations, etc. Object to cut out all ultra-violet and heat- rays.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
2. For engine drivers and firemen who require protection from heat, and also clear vision to see signals, etc.	—	—	—	—	—	Good. Does Not Affect Colors	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3. Ray filters for instruments and Photographic Work.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
4. For Roentgen or X Rays.	—	—	Dense Flint Very Good	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

The Ordinary Colored Glasses are Ineffective requiring a special, or welders' glass; consequently none are recommended.



Three Brand New Hairpin Styles



Styles H18, H19 and H20

(Prices, Without Chains)

Per Doz.

12K G. F.	\$0.65
14K G. F. (extra quality)	1.10
10K Gold	5.50
14K Gold	7.50

"Holee smokes," gasped one of the salesmen, "how that boy can talk chains!" He referred to "Al" E. Hughes who was just closing his chain talk with a magnificent peroration! "A remarkably fine exposition" giddily commented one of the elder generation present.

But Prince "Al" was linked up heart and soul with his subject. He was coming up for the third time pounding on our \$30.00 glass topped tables till the president had heart failure.

"Boys," said he, and he cocked his head in friendly earnest, "you have seen us apply the acid test to these stock chains and you *know* they'll stand up." The solution used was four times ordinary testing strength.

"Now let me tell you a few things. The machine-made AO chain of today represents the same quality as three years ago, but at one-half the price. Machines have made chains kinkless and shoved out the handmade, knotty chains of yesterday.

"Our new methods of soldering have now reduced the cost of manufacture materially.

"The third factor is jewelers' competition which has reduced prices. But the fact remains that we are now getting out better, machine-made chains than formerly and for one-half the price.

"Each link is now separate—the old handmade link was soldered to its next door neighbor and that's where your kinks came from. Our AO chains now could not be made by hand, they're too small and fine for anything but a machine.

"Let me show you our three latest styles here in hairpins—H20, H19 and H18. The latest styles out and very attractive in design; and, without exaggeration, in the most artistic envelopes and boxes you ever saw. We can meet every requirement of construction, price and service on these, and let me emphasize that in the future service will be a particular AO qualification. . . .

"Have I convinced you?"

"You have," hollered the salesmen, and the congregation all filed out. Order from your jobber.

Amoptico

Reg. in U. S. Pat. Off.

Vol. IV July, 1915 No. 4

Published Monthly by
American Optical Company
1833-1915Channing M. Wells President
Albert B. Wells TreasurerJ. Cheney Wells
Vice-President and SecretaryGeneral Offices and Works
Southbridge, Massachusetts, U. S. A.New York 15 Maiden Lane
Chicago 5 S. Wabash Avenue
San Francisco 140 Geary Street
European Agency,American Optical Company, Limited
39 Hatton Garden, London, E. C.
Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.Copyright, 1915, by American Optical Co.
Permission to reprint articles
granted on requestConstant Improvements in
Flag Lines

Hardly a day goes by that some significant improvement is not made in construction or in method of manufacturing gold-filled goods. Many of you never hear about them because they are details.



But the best of these improvements are adapted to the AOC Flag Lines in 12K and 14K gold-filled. As one customer put it, AOC Flag Lines are always "a little better than seems necessary."

The only man who will not buy the AO gold-filled is the man who buys solely on price. He ignores quality to get something cheaper.

Refinements in Detail

A good "spec" case is today a matter of refinement in small details. Yet all these little points

African Optometrical Art

Reprinted by Courtesy of the Grolier Society,
N. Y., Publishers of the Book of Knowledge.

"Howdye Doc!"

make a lot of difference in appearance and wear. An AOC case will put your service in the front rank, because AO cases are good cases and cost little or no more than the indifferent kinds.

You Know US, Al!

A. E. Van Harten of the Alexander Optical Co., Salt Lake City, writes his jobber:

"Just started to read AMOPTICO and found the ad for Fits-U Assembling Tool.

"Please send at once so we can get back to Sunday School. We learned to swear while replacing springs and putting on guards.

"Hoping for reinstatement through AMOPTICO, we are—Alexander Optical Co."

"The Happy Hours . . ."

New London, Conn.,
June 15, 1915.

Dear Friends:—The above seems more appropriate than "Gentlemen" after being entertained and educated by you while we of The Connecticut State Optical Society were your guests at Southbridge on June 8.

I cannot find words to show you how I for one, and all the boys appreciated the courtesies extended us; the happy hours spent with the AOC will be long remembered.

The dinner, which was served by some of the prettiest and best young ladies in New England, made us feel that the American Optical Company and ourselves were working for our mutual good, hand in hand as it were, in true Brotherly fashion.

The trip around the various shops of the AOC, while it taxed the underpinning of most of us, was of great educational value and we

realize that while one day was given us, that short time only gave us a very faint idea of the greatness of your institution, The AOC.

I have been a mechanic and have been employed in various mills and shops before taking up the study of OPTOMETRY. On leaving college I came to the conclusion that I wished to be an OPTOMETRIST.

I've worked in most all the large cities in this country and Canada, and in my travels I have been through many works; I have been astonished at the enormous amount of labor involved in the manufacture of their various goods.

But I have been doubly astonished at the amount of labor—the tremendous detail—involved in the manufacturing of the AOC's goods. It beats anything I have ever seen. It beats anything I ever expect to see; the manner in which such a huge concern has built up and maintained its reputation, to my mind, represents years of labor and planning. If there is a greater firm in the country, I would like to know of such.

I wish to thank you personally for all favors, courtesies and attentions granted me, and while I am not in a position to speak for Our Conn. Optical Society, I am sure they all feel as I do. Signed,

A. GIROUARD.

Follow the Flag Exclusively!

May 8, 1915.

"Gentlemen:—In answer to your letter of May 7th regarding your 12K Flag line, we wish to say that we expect to send you an order for these goods very soon, and in future will handle that line exclusively. We would appreciate it if you would send circulars regarding those goods, with our name printed on them for trade."—JOBBER.

Thanks! Rochester Papers
Please Copy!

"Crookes and Punktal are not to be translated according to sound."—The Merry Outlook for May.

Fads and AO Fashions

Lawn
Motoring
Near
Lensdale

"Here all eyes gaze on us, Men's eyes were made to look, and let them gaze"—Shakespeare.

Random Reflections on a Trip to the Coast

By L. W. BUGBEE

AS though the writer had not inflicted himself on the optical public sufficiently in the last few months, our editor has invited me to inject into his columns a few remarks in regard to my Pacific Coast trip just ended.

Originally intended for a strictly business trip for the sole purpose of calling on AOC's direct customers, it was changed at the last moment into a lecture tour, which called for about thirty talks before as many different optical bodies, at the same time carrying out the original intention for which the trip was planned. It was my privilege to meet over 2,000 members of the Optical Profession during my journey, including as it did the Optometrists and Oculists together with the Opticians, both wholesale and dispensing, and last, but not least, a large number of shop men. It was a rare opportunity to get in touch with the refracting or professional, the shop or mechanical, and also the business side of ophthalmic optics.

In the course of a business experience extending over an unbroken period of over twenty years, during which time I have travelled largely over the United States and Canada, attending optical conventions, both state and national, I have formed a great many acquaintances and friendships in the optical profession, but never have I had an opportunity to come into so close touch with so large a number as in the last few months, during which period I have travelled 13,000 miles and visited two-thirds of the states of the Union.



L. W. Bugbee

The one great thing that impressed me more than all else was the enthusiastic effort being put forth to gain higher optical efficiency—on the part of the Optometrist and Oculist to gain knowledge which will enable them to measure more accurately the errors of refraction, and also ensure that the lens actually placed before the eye will give the exact optical effect required; on the part of the Rx shop man to gain a better insight into the theory of lenses, as well as practical knowledge which will enable him to supplement the efforts of Optometrist and Oculist and ensure correct results. Lastly, the ambition on the part of the jobber to be able to foresee the demands of the Optical profession and be on hand with the best and most reliable optical goods made by manufacturers willing and able to stand back of their product.

The cynic will argue that there is nothing more to this than a desire to become more proficient in order to make more money, and that a manufacturer who

spends good money to help educate the optical public is actuated by the sole desire to exploit them to his own profit. Fortunately the cynic is in a hopeless minority and most of us know perfectly well that over and above the mere love of gain is the desire to do our chosen work better today than yesterday, better tomorrow than today, always working toward the goal which is 100 per cent efficiency.



—To see ourself's as others see us.

To even approach that state of efficiency team work on the part of the whole optical profession becomes an absolute necessity.

For instance, the American Optical Company manufactures goods to the value of millions of dollars yearly, employing approximately 3,000 people. Lenses alone are manufactured to the amount of thousands of dozens daily; eyeglasses, spectacles, and cases in quantities to match the lenses; trial cases and accessories of all kinds in inconceivable quantities. Now this product finds its way through wholesaler and retailer, finally reaching the ultimate consumer, the wearer.

In the ordinary course of events the American Optical Company rarely comes in direct contact with the man who refracts and thereby misses a vast amount of information as well as many valuable suggestions.

The most valuable part of the trip, from the AOC's standpoint, was the opportunity to come into direct contact with the Optometrist and Oculist and compare notes. This was done by inviting questions after each lecture and an informal discussion was always started in short order, which could not fail to be of mutual benefit. In fact, these discussions were undoubtedly of more real immediate benefit than the lectures themselves, as they gave each member of the audience an opportunity to get the information in which he was directly interested. The ability to ask intelligent questions depends directly on a man's power to reason and to think, and the questions asked after each lecture proved beyond doubt that the Optical fraternity of today are alive, alert and capable of arriving at correct conclusions.

I cannot forego this opportunity to acknowledge with my appreciation the many courtesies that were shown to me on this interesting trip. My stays in each city were not always long enough to permit me to thank those friends individually but nevertheless I was deeply grateful for their splendid hospitality everywhere I went.

Tales of Hofman, or Whoosoo in Fits-U Zyloware

"THE first time I exhibited a pair of 'shell' frame spectacles to a customer, he asked me 'whose horse are they for?'"

"They were of the first vintage and truly were about as handsome as a horse collar."

"The bow ports of a submarine on a still hunt for trawlers had nothing on them in the way of intentional ugliness."

"Harnessed to a man's face, they suggested an infirmity and were in the same class with a wooden leg."

"In order to reduce the inter-pupillary distance, the nasal sides of the lens frames were made straight and the heavy lines they added to a normally cheerful countenance made the unfortunate wearer look as though he was worried about the rent."

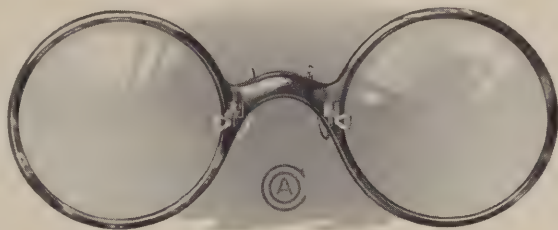
"But for real, unashamed comfort, they were the goods. Comfort was their middle name and they seemed to breathe the word through their benevolent lenses."

"To the sybarite who desired luxurious, revelling eye-ease, they were as appropriate as the name of my motor-boat 'The Floating Debt.'"

"Great reforms do not come with the speed of the colored brother who heard the same bullet twice; once when it passed him and again when he passed it."

"Notwithstanding these 'obstickles' however, persevering old honest AOCo has succeeded in eliminating the ultra-junk-tious appearance of the 'Zyloware' brethren and has produced improved results before the other guys with their obsolete styles were hep to the new doings."

"The new bridge of the latest AO 'Zyloware' spectacle frame gives one's nose a loving caress instead of a vicious pinch and happily dissipates that mortuary sensation that comes from feeling cold lenses lying upon the eyelids like the pennies on the eyes of a dead optician."



No. R3112 (Patented) Pat. Pend.

"Easily adjusted temples of different lengths have disposed of a tremendous difficulty. The lines of the frames are delicate and graceful. They are so beautiful a Zyloware Heaven has been set aside against the coming day and St. Peter stationed there to pass 'em in without the customary 'once over.'"

"A wide variety of widths of fronts and diameters of lens frames, enables the optician to fit them to faces with all the certainty of the old malleable G. F. R. B. frame."

"For children, the Zyloware Spectacle is safer and owing to its stability it sustains its original shape and form. The absence of abrading metal surfaces in contact with the tender skin of a child's face is to be desired."

"The Fits-U R3112 is as handy as a queen bee about the house, and imparts the same distingué air to those in it; for a distinguished appearance, like religion, is for those who court it. This light, practical style is the ideal for the presbyope, provided said presbyope is there with the proboscis."

"The cute little Zyloware rims shrunk on glasses that were born rimless, are expected to lessen lens breakage. A drop on the flagstone's now no worse than a drop in the bucket."

"Anyway, they add to the gaiety of things and present a finished, fashionable effect. A wrist watch should be worn with these in the morning; after that the River."

"Last week I saw an intellectual looking cop wearing a pair of 'Fits-U' eyeglasses. He was delivering a lecture to a low-brow janitor on the necessity for hygiene, sanitation and fire prevention. The cop, being a New Yorker, was, of course—Irish? The low-brow janitor was an aborigine; I think he was an Australian bushman. You must know that the ethnology of New York is somewhat varied and New York janitors are especially savage. At any rate, the

languages of the two did not 'gee,' so the cop tried to make his declaration more forceful by appropriate Delsarte gesturation. What happened to the 'Fits-U?' Well; nothing happened to it. It held on to that cop's nose like a bulldog to a planked steak."

"The 'peeler' told me that before he was transferred to the sanitation squad, he had been a traffic policeman stationed in Central Park, and, at times, at the corner of Forty-second Street and Fifth Avenue—the busiest and most congested crossing in all the world."

"Owing to a myopic error of two diopters he was obliged to wear his lenses constantly, which he did, with full assurance, mounted in a Zylo 'Fits-U.'"

"As his duties consisted of chasing joyriders, stopping runaways, and grappling with the members of the 'Gopher' gang, the circumstances looked like a pretty good endorsement of the holding power of old Mr. 'Fits-U' Zylo."



"I have yet to hear that the aviators are wearing 'Fits-U' Zyloware—I hope not e'en though it be the height of fashion for, 'unto each day some lens must fall' and the contemplation of the bill for the complete demolition of an aviator's glasses is too alluring." Signed—FRANCIS HOFMAN.

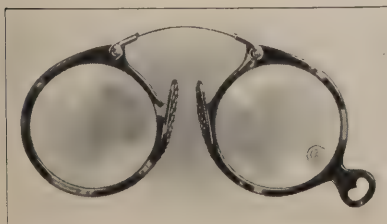
The Famous G717 Submarine Case!

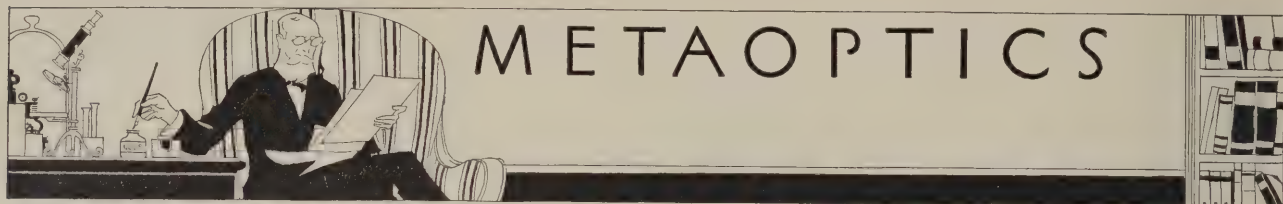
CEDAR RAPIDS, IOWA.
April 26, 1915.

AOCo, Sbdg.,—I picked up a bit of information today from a customer who speaks well of our new case covering process, and cases in general, in fact. Mr. Shepard of the C. Chambers Inskeep Co. reports that some time ago a suicide was taken out of the river here after being in the water from three to five days. The police, found no papers or marks of identification on the body or clue except an eyeglass case bearing the C. Chambers Inskeep stamp.

The case was brought to Mr. Shepard as a possible means of identification, and was found to be in perfect condition after being in the water that length of time. The case was our G717 Reverse grain.

Yours, R. S. TURNER.





NOTE: This is the third of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff will endeavor to make these articles simple, and interesting to everybody from month to month.

The Invisible Spectrum

THE last article dealt with the formation of the visible spectrum including the well-known colors, red, yellow, green, blue and violet and in continuing our analysis of white light, we are going to explore those portions which have no action on our eyes, in the sense that they do not excite in our brain the sensation of vision.

The reason that they do not give us the sensation of vision is that the waves are either too short or too long, too rapid or too slow, to affect the nerves of the eye. Fortunately there are other means at our disposal for proving the presence of these waves. Those longer than the most extreme red are called the heat rays and can be detected in several ways, apart from the fact that they give us the sensation of warmth. However, we will discuss these heat waves in a subsequent article and turn our attention, at present, to the waves that are too short to give us the sensation of vision.

These are called variously the ultra-violet waves, meaning that they stretch out beyond the violet in the spectrum; also, because of their strong chemical action, they are called chemical and actinic waves. Supposing we have a perfectly dark room and an apparatus fitted up as shown in the sketch accompanying our last article, and then suppose we place on our screen a long

strip of sensitized paper where the different colors will all fall on it and also have it long enough to stretch out beyond the violet. On coming to develop this paper we find that it has darkened some distance beyond where the violet rays were acting upon it and here we have direct proof of the presence of these invisible ultra-violet waves.

Now, there are other and—in some respects—more convincing ways of proving the presence of the ultra-violet waves. We can take advantage of the property possessed by certain substances of transforming the short waves into longer ones that are capable of giving to our eyes the sensation of light. Solid substances like fluor-spar and uranium glass possess this property, also solutions of quinine and many of the dye stuffs derived from coal tar. Still another substance is called platino-cyanide of barium, but this is a very expensive substance and best of all to use is one of the main constituents of coal tar, namely anthracene, which shines with a beautiful greenish-blue light when the ultra-violet waves fall on it.

This property of transforming ultra-violet light into visible light is called fluorescence.

To use these substances such as anthracene, they are made up into a special paste and painted onto white cardboard or blotting paper and the spectrum allowed

to fall upon such a surface. When an ordinary carbon arc is used with slit, glass condensing lens and prism, if the slit is narrowed up one usually gets two sharply defined bands extending beyond the violet. But now we can go a step farther; suppose we substitute a quartz lens and prism for our glass one; we find that quartz is very much more transparent to ultra-violet waves than glass and if the source of light is a very powerful arc, the ultra-violet spectrum will now be seen stretching out to a distance nearly four times as long as the visible spectrum.

Fluor-spar is slightly more transparent than quartz and by its means and also by using specially prepared photographic plates the ultra-violet spectrum has been photographed down to a wave length of four millionths of an inch, while the extreme violet ended somewhere at fifteen millionths of an inch. The frequency, or rate of vibration, on these very short waves rises as high as three thousand billion per second. This is a figure which the mind can hardly grasp.

Ultra-violet light is now of special and growing importance to the optical profession and trade, by reason of its peculiar properties and physiological effects and therefore I propose in the next article to discuss some of these and the various means for dealing with them.

We Sold the KeeLock to Our Own Salesmen First

IT'S a peculiar thing," said a prominent manufacturer to his visitor, "I've found we have to resell our own goods to our salesmen every so often. You would naturally expect them to be predisposed in favor of our goods wouldn't you?"



"Not necessarily," replied the friend, "they hear too much from the trade about your competitors' marvelous goods, service, prices, et cetera. They are critical because their clientele is critical. Their enthusiasm takes the form of constant prodding to improve their own lines. No sir, the salesmen are apt to be your most critical customers—in a construc-

tive way. That's why you have to resell to them frequently. . ."

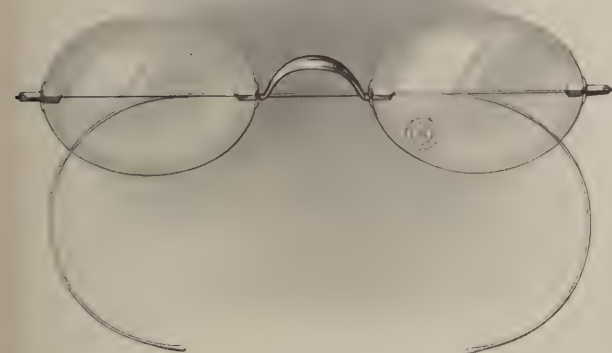
Not long after this incident the salesmen came in to attend the regular conferences. The first question from the factory was "What do you hear about cement straps?"

"They say," said one, "it'll never be any good. Too radical, a fad and all that. Can't see it." "Well, my trade like it but some think the mounting complicated and the cement won't hold," added another. A third contributed, "But many of them don't know how to use it and don't want to." A telegram was received from another salesman; his section was prejudiced in favor of cement mountings.

A general discussion ensued. Competitors' screwless straps were discussed. The pros and cons of each were brought out.

At this juncture our cement strap expert got up. "I believe," said he, "that the cement strap is here to stay, whether some choose to sit back and pooh! pooh! it, or show prejudice against it or not.

"Cement *will* hold. There's nothing wrong with the cement. The trouble's been to get the proper mounting and surfaces to hold it, that's all.



(Patented)

"The lack of proper mountings and, as one of you gentlemen said, correct handling has delayed the spread of cement straps, but it's bound to come. Correct handling will be a matter of trade education which we must undertake. *But* the proper mounting—cement—is now here and the cement method *has come to stay*. Bear that in mind."

So he took up a KeeLock, turned to a series of diagrams and proceeded to demonstrate. "You will first of all note this slot and the wedge that goes into it. Behind the slot and underneath the bevels is space for the cement. The inside of the slot is rough. The cement sets rigidly behind the wedge and beneath the bevels. You, therefore, have a large cement-adhering space and a dove-tailed or interlocking device permanently rigid. That satisfies us on holding power. You simply cannot pull out a KeeLock if properly cemented."

He took up three lenses, placed them successively in the KeeLock machine, pushed them forward with a pressure of the thumb to an adjusted depth, and held them up within one minute, slotted. "That was to demonstrate how simple this slotting proposition really is," he remarked.



(Patented July 16, 1912. Other Pats. Pend.)

"Now take these Lenstick tablets, put one in the strap—the other in the slot. Warm them over your oil lamp until they begin to bubble slightly. Presto! bring them together and the wedge shoulder settles your strap firmly into alignment. Simple, isn't it?"

"Complaints of its being complicated are unfounded as you see! It's in for keeps.

"Well, other things being equal, what's going to sell a mounting to the public? Appearance, of course! Notice the symmetrical, inconspicuous form of the KeeLock. These bevelled edges with minute facets that sparkle and give the entire mounting an artistic appeal. This beautiful design is what's going to sell the KeeLock to the public.

"So what's your verdict?"

"Well, we've been sold on it because we've *seen* it," spoke up a salesman first. "I think it's bound to come and you've certainly got the features all there."

Another added, "I'm convinced that it's the best I've seen yet—it's a wonder on looks and looks to be a wonder. If we can convince them that there really is a cement mounting that will hold, and we have it in KeeLock, then I see no real obstacle. I'm for it!"

Thus we "sold" the KeeLock to our own salesmen because we let them slot and mount it and examine it themselves. They saw how simple, beautiful and strong it is.

The KeeLock convinces those who see it. Are you blocking progress and your own profits or are you seizing the opportunity? Many have written in stating they wish to be the first in their locality to sell it. Why not you? Order from your jobber.

"His eye, as bright as the eagle's lightens forth controlling majesty"—Shakespeare.

Primex and Centex Lenses Represent Purest Quality

ABSOLUTE perfection in the manufacture of Ophthalmic Lenses is practically impossible. Nor is it at all necessary. When a lens is exactly suited to its purpose it is relatively perfect for that purpose.

The first definite requirements have been set for the manufacture of lenses which, when strictly adhered to, produce an Ophthalmic Lens that is perfect for all practical purposes. The glass used must conform to a fixed standard of hardness, it must have a certain index of refraction, the thickness of the lens must conform to certain limitations, its optical center must be located within a specified distance of its geometrical center, etc. Lenses which conform to these requirements are known as "Centex" lenses.

While Centex lenses are conceded to be commer-

cially perfect, there are those who demand a lens of even a greater degree of perfection. For this demand we offer our Primex lens. These are manufactured from a selected stock especially tested for accuracy of index, centering, etc. The Primex lens is guaranteed of best surface quality, free from wavy errors, striæ and give absolute neutralization with trial lenses of equal power. These lenses are made in one thickness only, which thickness has been calculated to provide a lens of ideal thickness for Fingertip Mountings, at the same time not too heavy for Frames.

Let the words "Primex" and "Centex" be your guide when ordering lenses from your jobber. These are your guarantees of excellence and satisfaction to your customers.

A Responsible Guarantee Stands Behind Our Name

IF I could afford to have my pick of any automobile on the market," said a dealer to me one day, "I'd select the best, which would be one of the big boys, like a Packard or Pierce or Peerless, for instance. And I feel the same way about optical machinery. I *can* afford the best optical machinery and I am buying AOCo machinery because, not being an expert myself, I prefer to put myself in the hands of the company reputation for

self, I prefer in the hands that has the good stuff; that has the engineering, scientific and practical

talent and *whose name plate on a machine, means a lot to me.*

"I can't afford to waste time on mechanical misfits, so I play safe. That's a good bet any time. It is cheaper in the end. The cost of a machine is not only in the original price, it is also in the cost of operating it day in and out, and its length of life."

It has been the constant aim of the AMERICAN OPTICAL COMPANY to make its name an asset to the jobber and dealer in the sale of its lines.

AO advertised goods carry with them the prestige of a name. Our optical machinery is now at the point where our name plate ensures the buyer excellent service, a fair price and a high standard machine throughout.

The M83 Hand Edger shown here is of the same design as the M75 Young American Automatic Edger, excepting its automatic features. While light in weight great care has been used to obtain that rigidity that is so essential in a perfect edging machine. A trough in base of machine supplies water for lubrication of stone. For a moderate priced hand edger this machine cannot be excelled.

Approximate net weight, 80 lbs. Approximate gross weight, 145 lbs.

Approximate outside dimensions of case packed for export: 2 ft. long, 2 ft. high, 1 ft. 8 in. wide. F. O. B. Southbridge.



Hand Edger No. M83

Price, \$31.25. Extra crated for export, \$2.00



ANNUAL SALES CONFERENCE, JUNE 14th-19th, 1915

(Standing)—O. B. Carson; W. H. Hurlburt; R. S. Turner, Chgo.; F. N. Kreissl, Chgo. Mgr.; C. F. Hill; H. C. Ray; J. H. Bohling, N. Y. Mgr.; J. E. Eaton
F. Kropff, N. Y.; M. F. Judd; G. L. Treadwell. (Seated)—H. J. Brackett; A. E. Hughes; P. H. Herbert; C. G. Hilton and R. Schädla.

There Was Harmony, Fun and Instruction Galore

AS Sales Conferences will go, the annual cabaret of Rhetoric between the outside representatives and the production forces was staged in the AO lecture hall over a series of ice pitchers, sample trays and bald heads from June 14th to 19th.

However, owing to popular prejudice in Southbridge, New York and other large cities against staging large theatrical productions in private establishments under the guise of cabarets, it was deemed advisable to hold the festivities on a smaller scale than in previous years. Notable among those missed were Manager A. C. Smalley of the San Francisco Branch, J. P. Petherick, the London AO Agent and A. "Jock" Moseley of the same office, besides others of our foreign and domestic representatives.

Nevertheless, a sterling quartet appeared at the first performance, and became so popular they were engaged for the week. They were the famous Price-Service Quartet of well-known artists, composed of Manager F. N. Kreissl and R. S. Turner of the Chicago office and Manager J. H. Bohling and "Ferd" Kropff of the New York office.

The latest selections in machin-

ery, gold, lenses, zyloware, gold-filled, white metal, advertising and a score of other fingerpieces were delivered to and by the quartet. They proceeded right off the bat to work in some exquisite "swipes" not originally inserted by the composers; and they picked out a few rare chords in "Where is My Bubbling Centex Tonight" along with that popular fingerpiece melody "Deliver Me to My Loving Jobber." A third song by the AO four entitled "Who Knows but Price May Wreck Us" captivated the audience, so pathetically was it rendered.

There was harmony galore! The official Convention song, originated by a deceased salesman of a famous salve concern opened and closed the Conference in a conventional manner. Messrs. Kreissl and Bohling sang the alternate verses on Service and Price, while the factory chorus came in strong with the Finish and Chin Chin Tauric demonstrators.

Every time there was a kick from these Knights of the road with their rear end drive, the principals engaged in a good old game of "Passing the Buck." All joined in merrily and the fellow that got it eventually was the man in the

factory—our great, noble foreman. Rhetoric won.

But after all was said and done, corrections made, improvements suggested and kidding passed around freely like religious tracts, it was the best little Sales Conference ever seen. We took the visiting salesmen into every important department in the factory and set them to work on the practical factory work for half a day. The demonstrations given were followed up by talks and questioning to clear up trade and manufacturing problems.

When it was all over the whole office force rushed off in automobiles to the New AO Quinebaug Country Club where a monster clambake was set down before the crowd, including the Messrs. Wells and those crackerjack baseballists, Kreissl and Bohling.

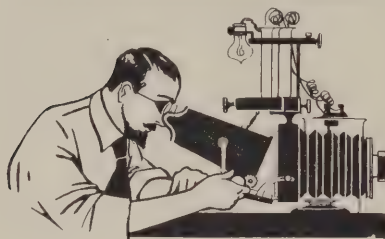
Then "Billie" Bugbee took a fall out of Kreissl for an appetizer, bust his KeeLock and hit his head on a large rock. The first thing he wheezed when he came to was, "Gee, that's a pretty good ad for KeeLock. The lens bust, see, but the KeeLock's still intact." And so it was—it stood more'n Bugbee's head did and that's going some, isn't it?

A Series of Effective Crookes Newspaper Ads.

Electrotypes and copy for advertisements are furnished free to the enterprising dealer who avails himself of them by sending in his request.

They are designed to supply an attractive and condensed appeal whose effectiveness depends on their being run in a series of ten advertisements—for one week each. We are prepared to furnish the five electros here illustrated and changes of copy. Order the electros by number and the copy for ads will be sent you along with them. There is a space for the dealer's name at the end of each ad.

The nominal cost of running these small space, single column ads will be offset by increased inquiries and sales and the general credit of keeping your name before the public.



Electro No. C44

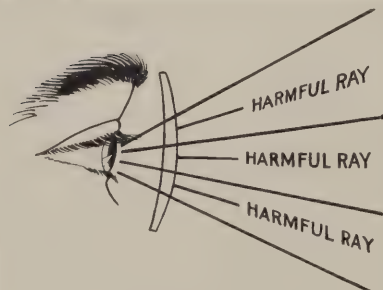
Sir William Crookes Conferred a Blessing on Mankind

IN more ways than one. His discoveries made X ray science possible, but his research for and discovery of a new glass for spectacles and eyeglasses will have a more wonderful and more far-reaching effect.

Can you imagine a pair of glasses with little or no perceptible tint or color that will absolutely protect your eyes from glare and strain?

May we explain more fully about the new Sir William Crookes lenses that can be made for you regardless of your prescription?

(FIRM NAME HERE)



Electro No. C47

Lenses That Filter Light

Just as a good filter purifies water, the new Sir William Crookes lenses filter out the harmful ultra-violet and heat rays, letting through only the cool, soft light without eye-strain or irritation. Let us show you what wonderful restfulness there is in eyeglasses or spectacles of any prescription when fitted with Sir William Crookes lenses.



Electro No. C45

Kipling Wrote a Book— "The Light that Failed"

An intensely interesting, yet sad story about an artist who gradually went blind. Many people partially lose their sight by exposure to strong light. Certain rays in daylight or electric light are very harmful and useless; others are harmless and necessary. The useless, harmful heat and actinic rays will not pass through Sir William Crookes Glass, yet all the necessary, useful light does. We can make glasses for you that will do wonders for your eye-sight.

Your Opportunity—

We are desirous of seeing you reap the benefits in Good Will, profits and patient's relief that this beautiful invisible glass will bring to those who wisely adopt it. Write in Now.



Electro No. C43

The Man Who Works Overtime

is not always the best friend of his eyesight. The eyes suffer more than any other physical faculty from overwork under artificial illumination. Even daylight contains a large percentage of rays harmful to eyesight. All that danger can be done away with if you view your work through lenses made to your prescription from the wonderful new glass discovered by Sir William Crookes, that actually filters out all the harmful colors.

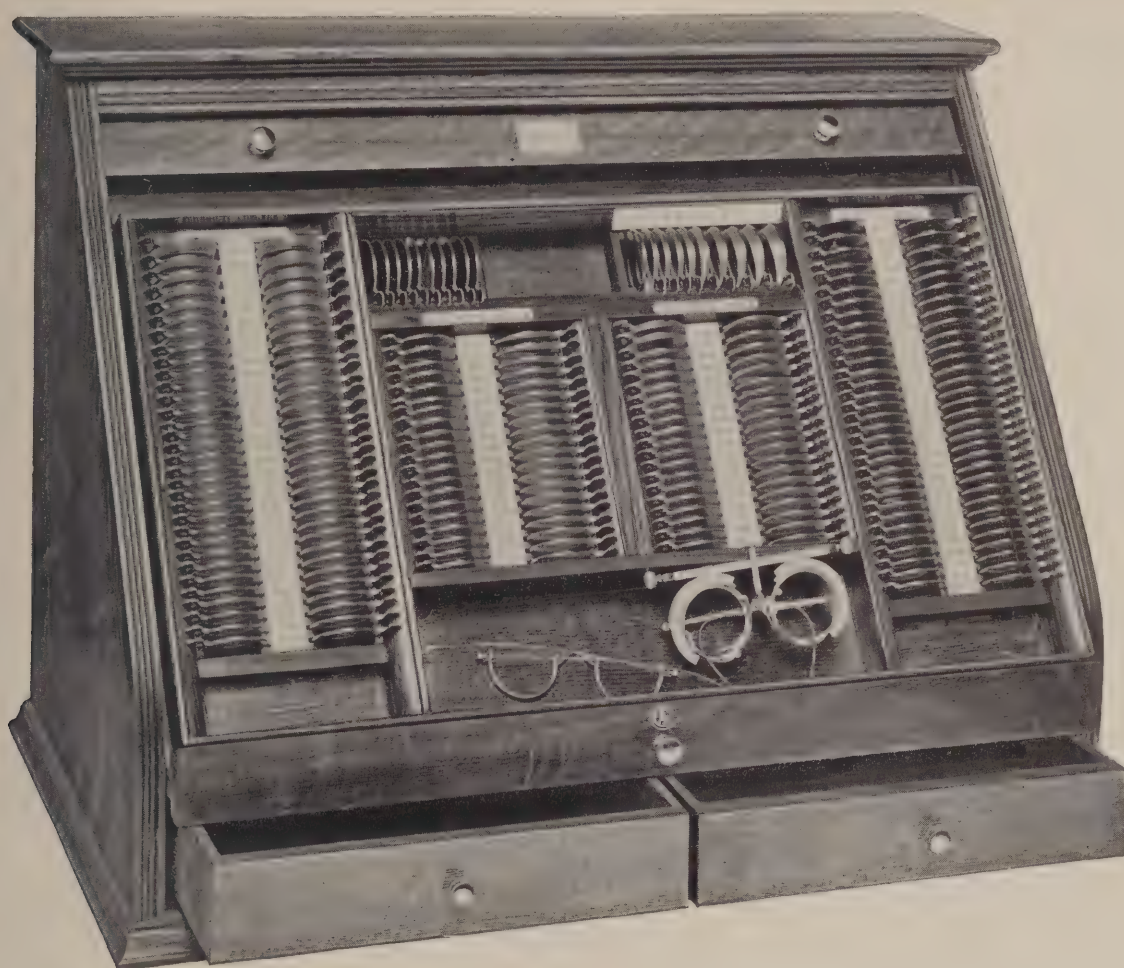
Don't neglect your sight whether you work overtime or not.



Electro No. C46

Ever Hear of Eye Sunburn?

Protection of the eyes from sun-glare is even more necessary than wearing a hat to prevents unstroke, etc., etc.



Trial Cases in Every Style for Every Usage

This handsome and sturdy scion of a large and flourishing trial case family is one of the most effective aids to the profession yet devised. It endows your office with a distinctive atmosphere. Your patients' first impressions are lasting.

If your office is fitted in keeping with the professional service you should render, it is essential for you to have a trial set up-to-date in style as well as in scientific accuracy.

There are several generations, from the carry-me-around, "baby" trial set style to this permanent exemplar of all that is complete, neat and professional. The cases are made

in all styles of leather and beautifully finished woods, serving two purposes—to keep out dust and germs, and to give the trial set and the oculist or optometrist's office the proper professional appearance.

Subsequent impressions and results are dependent entirely on the accuracy of your trial set and the skill with which you work. Your judgment is supported by the absolute accuracy and dependability of the AO trial lenses.

AO trial sets are scientifically made and artistically finished. Consult us on styles as well as accuracy—both are essential.

Trial Case No. 2511 (Complete) in Oak \$60.50; Mahogany, \$65.00

ASK YOUR JOBBER ABOUT IT

Boost Your Summer Sales with AOCo Popular Priced Colored Glasses

Genuine AOCo quality and workmanship in popular priced colored glasses make a combination that is hard to beat. No wonder they are selling like rubbers on a rainy day.

There are five distinct designs in three separate colors (Amber, Fieuzal and Smoke) and the line includes frames, rimless spectacles and eyeglasses. The gold-plate and white metal are of excellent quality and the workmanship and finish are far-and-away better than you will find in the ordinary colored glass. All are packed in attractive display boxes and some designs are furnished with handsome pocket cases. Here are a few details of the different designs:

OVERLAND TOURIST:—Furnished in frames and rimless spectacles. Each spectacle comes in a handsome tan or wine-colored case that slips handily into the pocket. Trade price per gross \$40.00 to \$42.00.

ECLIPSE:—This design is made in eyeglasses, frames of white metal and rimless spectacle mountings. They are packed in attractive display boxes and very striking counter cards in orange and white are

furnished at a nominal cost. Trade price per gross, \$18.25 to \$30.00.

THE ROADSTER:—Furnished in spectacle style only with Zylonite fronts. Each pair packed in a royal purple box with handsome gold-lettered design. Trade price per dozen, \$5.25.

SHELLOID:—This design has a Zylor rim on the eyeglasses that gives a very distinctive

appearance. It appeals particularly to those who want good style and adequate eye-protection at a moderate price. Trade price per gross, \$33.00 to \$48.00.

JAPTOL:—A black finished metal spectacle design. Packed in individual boxes. A particularly strong, long-wearing design that cannot be easily broken. Trade price per gross, \$42.00 to \$48.00.

These can be supplied from stock immediately; orders on lesser quantities than above stated subject to relatively increased price.

Full particulars and prices will be furnished promptly on request by your jobber. New catalogue of these goods sent on request.

American Optical Company

Southbridge, Massachusetts

Largest Manufacturers of Spectacles, Eyeglasses and Lenses in the World



Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

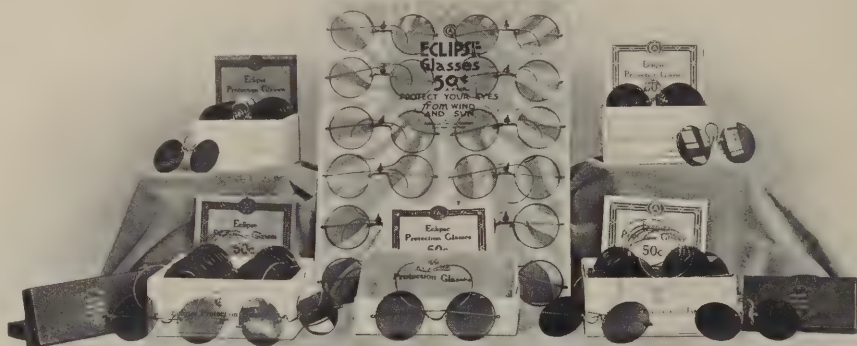
Vol. IV

August, 1915

No. 5



Copyright 1915 by the American Optical Company



Immediate Service on AOCo Colored Set Goods

Following the tremendous increase in our production due to the sudden and heavy demand for moderate priced Colored Set goods, we now announce our ability to give

IMMEDIATE SERVICE

on orders for our regular numbers in these lines. We are ready!

Orders can now be obtained from stock in amber lenses and the regular numbers without delay. On varying combinations within the regular line deliveries can be made almost immediately.

By announcing this excellent service we are expressing our desire to help you take full advantage of the enormous demand that has met the appearance of these moderate priced set goods since their inception.

Five distinct styles in Shelloid, Roadster, Overland Tourist, Eclipse and Japtol for every taste and every occasion, in Amber, Smoke or Fieuzal lenses. Order from your jobber while the season is in full swing.

SEE OUR NEW ROADSTER SPECIAL ON PAGE 100
THE LATEST STYLE OUT

Amoptico



The Evolution of an Ophthalmic Lens

THE day of the original lens has been shrouded in mystery. Each new historian searching for information has called upon his imagination and the dirt pits of ancient Europe to vindicate two opinions: one that the original manufacturer was Noah, and the other that the initial lens first saw the light of day in Jonahtown, East Egypt. All of which is important.

This would make it appear that lens making was practiced thousands of years ago. Mebbe so, but we never heard the old folks refer to it.

Readers and little children will, therefore, take it on our say-so that lens making became one of those "lost arts" until revived into a modern art by the sixteenth century and the AMERICAN OPTICAL CO. The modern history is something we know about.

So Now We Begin

The modern history of lens grinding begins with the invention of spectacles, or eyeglasses, in the sixteenth century. Naturally, it was many years before anything more ambitious than the grinding of a single lens at a time by hand was attempted.

Crown Glass Best Lens Material

Crown glass constitutes the material employed and none of it suitable for spectacle lens making is produced in this country. Practically the entire supply of high grade lens glass comes from abroad. It is received in the form of disks, or pieces a little larger than the lens to be made. This glass comes from abroad in various shapes and sizes: ovals and rounds for spherical lenses, and squares with rounded corners for cylinders and torics. It is also imported in sheets from which special shapes and sizes can be cut. For lenses having strong curves, molded blanks are used. These are made by subjecting disks of the proper size and weight to high pressure in steel dies while the glass is plastic, to give the approximate curves re-

quired. Hundreds of thousands of these lens disks are constantly kept on hand in the storage rooms.

Special Glass Stock for AOC

The glass used for Centex and other lenses by the AMERICAN OPTICAL COMPANY is a special stock made expressly for the purpose and is all important. It is extremely hard, white, free from striæ, and of uniform index of refraction. In fact, the spectacle lens of today is made from better glass than was to be had for the finest optical instruments of a half century ago.

The First Operation

The first operation consists of inspecting the blank for defects, such as the slightest veining or indication of unequal density, termed "striæ," which would render the glass unfit for lens purposes. The blanks must also be carefully gauged for thickness, down to a fraction of a millimeter. This must be done to insure accurate uniformity of thickness. The preliminary gauging of the blanks is performed by an automatic machine. After being examined for defects, the disks are placed in a tube from which they are automatically



Corner of Research Laboratories

distributed into a number of different metal boxes according to their variation in thickness, the dimensions of each lot in millimeters being marked on the corresponding box. This machine gauges the disks to 1/10 of a millimeter.

Cost and Gauging Important Factors

As the cost of the glass is a very large item of expense, it is obvious that the gauging is an important operation. If the disks are thicker than necessary, this item is greatly increased, as is also the time required to grind the lenses to the proper thickness. What is of even greater importance, the finished lenses would not be of a uniform or standard thickness.

Glass Must Be Thoroughly Annealed

Before any of the actual operations of lens grinding are carried out, it is absolutely necessary, in the case of molded blanks, that the glass be thoroughly annealed. This is done by placing large quantities of the blanks in huge ovens where they are brought to a certain temperature. The latter is maintained for a certain period and the lot of blanks is then allowed to cool very slowly. The annealing operation is performed to free the glass from any internal stresses between its molecules that may have been set up when the disk was molded. This is a very delicate operation, requiring great expertness and judgment to perform properly.

Finest Selections Make Primex and Centex

So far, the material has been spoken of merely as disks. This of course, is what they are, but aside from the variations of thickness for which different lots have been selected, there are also dozens of classes of blanks, corresponding to the various types of spectacle lenses that are to be manufactured from them, such as spherical, cylindrical, toric and others, not to mention the great range of thickness there must be to provide for the making of lenses of differing powers. The very finest are selected for the making of the Primex and Centex lenses. After the various operations of inspecting, gauging and annealing with its subsequent inspection, have all been gone through, the disks are ready to be ground.

The Blocking of Lenses

It would manifestly not be commercially practicable to grind one lens at a time, as the optician does in his workshop. Large numbers of disks of the same class are accordingly ground at once—the weaker the lens, the greater the number that can be produced on one block. To hold it while being ground, the disk is mounted on a heavy iron block. The form of the latter depends entirely



Lenses "Blocked" and ready for Grinding

ly upon the class of lens to be produced. For ordinary spherical lenses, it represents a surface segment of a sphere, differing in curvature with the power of the lens desired, and for very weak lenses a comparatively slight departure from a flat surface. For cylindrical lenses, the holding block represents a section of a cylinder, the latter again differing in the same manner, from which it will be evident that a very varied assortment of these blocks must be employed to produce the thousands of combinations of surface curvature required for the correction of visual defects.

Lenses Attached to Blocks by Pitch

The glass disks are attached to the iron blocks by means of a special pitch compound, with which the surface of the block is coated by being placed face downward into an iron bowl of corresponding opposite curvature, previously provided with a proper amount of molten pitch. This gives it a uniform coating of pitch of the desired thickness which rapidly cools and solidifies. A number of the lens blanks have been heated in the meantime by placing them on an iron steam-plate. When hot enough, these blanks are pressed into the pitch and upon cooling adhere firmly. When covered with disks, properly mounted, the block is elevated to the floor above, where the grinding machines are located, by means of an endless chain carrier.

One Hundred Tons of Grinding Machinery

The grinding machines are immense affairs, each weighing upward of one hundred tons. They consist of long rows of vertical spindles centered over cast iron laps, corresponding in form to the blocks. The inner faces of these laps are smooth and the glass is ground against them with emery as the abrasive

medium, by an eccentric rotary motion of the two faces against one another. The first grinding operation is carried out with the aid of coarse emery, which serves to remove most of the superfluous glass and to give the face of the blank approximately the curvature desired. It is then subjected to second and third grindings with finer grades of emery, each stage of the operation requiring specific time for its completion.

Several Hours of Polishing

Polishing is similar to grinding, except that the lap is replaced by an iron polisher lined with felt, and instead of emery, a very fine grade of special polishing compound is used. Several hours are consumed in each operation. If the latter have all been properly carried out, one face of each of the blanks has been ground and polished to the proper curvature.

Inspection After Removal from Blocks

The work is then removed from the machines; the blocks and their disks are inspected for any improperly ground or otherwise defective disks. The lenses are removed from the block. If defective they are thrown

out; if not properly ground, they are remounted and go through the process all over again.

Those disks that have been properly ground and polished on one side are again mounted with the other surface exposed, and the process repeated.

It would naturally be out of the question to attempt to cover the entire subject of lens grinding in a limited space, as there are a great many operations necessary to the manufacture of a perfect spectacle lens after the completion of the grinding and polishing. These will be treated in a subsequent issue.

The method of handling the lens after it leaves the grinding and polishing rooms and travels by overhead cable to the white cement Lensdale building is one of constant interest. As methods of inspection change and improve, inspection efficiency, eliminating error, reaches its highest development in Lensdale. We shall describe these painstaking processes.

The steps in the completion of lens evolution—running up through several inspections, centering, packing, etc.—together with detailed information on the same will be dealt with in a comprehensive manner.



Corner of Edge Grinding Room at Lensdale

Tales About Some of Our Optical Knights

HOWEE loved to get back! "Where'd you spend most of your time, boss?" we whimpered. "In the bathtub," returned the unfeeling executive—no outward signs visible.



"Back on the Job"

"Reminds me of a story I heard of Bugbee and John Bohling, our New York manager," sez I. "Billie tells me he and Jack yoked up for a southern trip some time ago. Got tired and went to bed. About two A.M. Billie was Oster-mooring into optical heaven—Kee-LoCK specs and B. V. D.'s neatly folded on the chair near-by—when a charge of ultra-violet rays put the quietus on sleep.



R. S. Turner, Chicago

"Billie—a magnificent bow-legged ghost—pussy-footed it across the floor, cocked one eye into the bathroom and rescued the sleeping beauty. "Forthere was Bohling, chin deep asleep in hot water—one inch from Death. "Ever have any experiences with Turner, Billie?" sez I, foxy-like.

More foxy still, Bugbee says, "No, none that could come under recent developments in optics. But Turner's a splendid worker—very serious but absorbed in his work and constantly in touch with every phase of the game. Yes! Ralph Turner's a crackerjack man—loyal to the AOCo, but as careful of the interests of his trade as he is of the Company's."

"We certainly thought so at the Sales Conference," someone added, and the conversation veered around to "Ferd" Kropff of the New York office.



F. Kropff, N. Y.

"Say," remarked another, "I watched Kropff all through the Sales Conference. Always got one ear cocked up in the wind for anything new. Furthermore, he talks little but comes across at the right time with something pertinent. For a young salesman he's got a nice little future ahead of him—a man of very pleasant personality. Bohling and Ferd are a great team. I take my hat off to them."

Clyde G. Hilton, manager of

our foreign sales department, is a signal example of energy and persistence pushing its way to the top.

When he graduated from the University of Vermont he passed an apprenticeship in the show business in New York until the call of the chickens sent him to farming in Connecticut.



C. G. Hilton

Just about the time they began to lay for him he decided to enter optical manufacturing; the first door he struck opened into the shipping room.

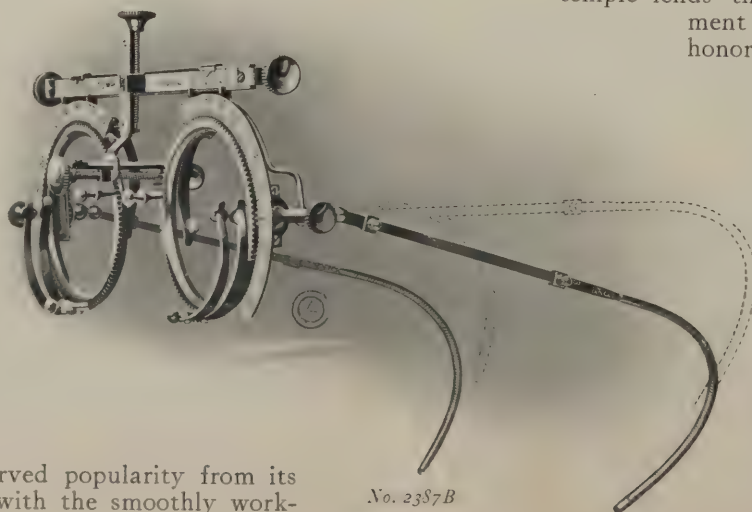
When Pitt Herbert swept himself into a division superintendency Hilton was right behind with the dust pan. Then came the expansion of our foreign business and Clyde was picked out to head it. He says little, thinks much, acts quickly and possesses the faculty of getting things done. The European trade knows him, the American trade does not and many of us here rarely come in contact with this silent worker, but Hilton has made the AO foreign department a great enterprise. That's enough for one young man for the present.

For Nicety of Adjustment Get a Wells Angular Temple

YEARS ago, before optometrists began to think up long names, the AOCo built a temple. This temple was made of white metal and now stands as one of the many ingenious little landmarks left by the late George W. Wells along his optical way.

The Wells Angular temple is a particular feature of the No. 2387B trial frame reintroduced here. It has had long and deserved popularity from its inception. Combined with the smoothly work-

ing AO trial frame this adjustable temple lends that nicety of adjustment peculiar to our time-honored, up-to-date trial sets.



No. 2387B

These Wells temples for trial frames are equipped with Comfort Cable tips at no extra charge. Here is an accurate little frame, fitted with the latest devices that the oculist or optometrist must have for efficient refracting. Order from your jobber if you haven't it in your outfit.

Did You Ever Hear Why We Located in Southbridge?

FOREMAN George Tully of the White Metal department banged the time clock, shot through the door and hopped the up-town car. 'Twas then he stopped to look around as he fished for the daily nickel. We sat ahead one seat, unobserved.

"What are these buildings?" broke in an open-mouthed sightseer on the neighboring seat.

This was meat for George; none loves the AOCO like "Pop" Tully. So he swelled with the accumulated pride of thirty years' service: "These are the buildings of the American Optical Company, largest makers of specs, eyeglasses and lenses in the world."

"So?" mused the peering stranger naïvely, "I wonder how they came to locate in a place like this?"

"Because the brains were here, that's why," thundered outraged pride. Subsequent conversation was nil.

Located in one of the garden spots of New England, Southbridge has been put forcibly onto the map of our good old United States because "the brains were here."

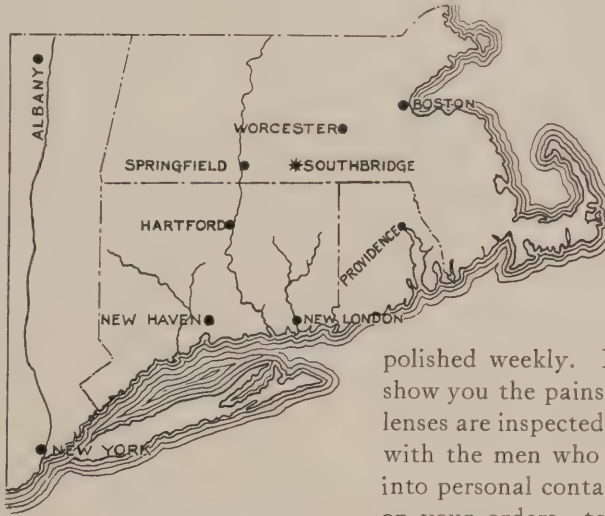
You need never ask an optical man what Southbridge exists for; he knows it's the birthplace and home of the American Optical industry. What he must be told is how to get there. So we thought it would be the nice thing to extend the invitation now.

Our little town of 14,000 is near the southern border of Massachusetts, as you see, halfway between Worcester and Springfield, off the main line, but accessible by trolleys or the N. Y., N. H. & Hartford R.R.



View of Main Factory from Lensdale

The route from Boston to Worcester by train and from Worcester to Southbridge by train or trolley is a beautiful ride through the valleys hereabouts.



Particularly at this time of the year a run by steam, electric or auto during your vacation would be as welcome to us as it would be interesting and instructive to you. Come up and get acquainted. Let us show you the unique lens plant where over half a million lenses are ground and

polished weekly. Let us take you through and show you the painstaking methods by which our lenses are inspected. Motor up and shake hands with the men who handle your orders. To get into personal contact with these heads who pass on your orders—to follow the actual processes

by which your gold or gold-filled, white metal, zyloware and trial set requisitions are handled is an education and experience of far-reaching benefit.

These are some of the realities that will make you think the optical business is the greatest little occupation in the world. If you don't go away enthused with everything you've seen, then it'll not be our fault.

The history of the optical business is very largely the history of the American Optical Company. To tell the story would require more space than is allotted here. But we can show you by personal visit many of these epochal developments and guarantee you a welcome reception.

We impose no obligations on anybody, except the disposition to meet us halfway with a frank, open-minded spirit. You will find us the best little hosts you ever saw. Let us know ahead so we'll be out on the front porch.



Venice in America



NOTE: This is the fourth of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff will endeavor to make these articles simple, and interesting to everybody from month to month.

The Invisible Spectrum

This month we continue our study of the ultra-violet portion of the spectrum in relation to its physiological effects.

City and Mountain Dwellers Susceptible

Ultra-violet rays are known to produce inflammation of various parts of the eye as well as the skin. People who are much exposed to the direct effect of sunlight, are liable, not only to sunburn, but also to redness of the eyes and chronic conjunctivitis. The average city dweller accustomed to the subdued light prevalent in cities, becomes particularly susceptible to the effects of brilliant sunlight, when he or she goes out into the open country. In mountainous countries, the inflammation of the eyes can so much increase that they cannot be opened, and the result is similar to snow blindness.

Cataracts Due to Intense Light

Prof. Hirschberg has explained that the many cases of cataracts in India are due to the intense light, and Schuleck has observed that owing to the entire absence of shade on the great Hungarian plain, the dwellers thereon are very liable to cataracts, more so than those who live in the cities. It seems therefore abundantly obvious that natural sunlight can in certain cases be harmful to the eyes and by experimenting on the eyes with artificial light, we find that the ultra-violet portion of the spectrum is mainly responsible for such troubles as inflammation, conjunctivitis and snow blindness, also for the headaches suffered by many people when exposed to bright natural light.

Must Confine Light to Its Proper Sphere

Of course, many people will argue that sunlight being a natural product, no portion of its spectrum can possibly be harmful; but it must be remembered that lightning also seems to be a natural phenomenon and a necessary one, although at times it is highly destructive to mankind. It is said, that lightning is useful and so are the ultra-violet rays. They are undoubtedly beneficial in purifying our atmosphere and freeing it from bacteria; sources of light known to be rich in ultra-violet rays have been successfully used to sterilize water and destroy the typhoid germs, so that ultra-violet rays are undoubtedly useful and beneficial and necessary to our existence;

but, like everything else, unless confined to their proper sphere they become harmful.

More Artificial the Light, More Dangerous

Turning now to artificial sources of light, we seem to find that the higher the temperature of that light, the more ultra-violet is thereby produced. Starting with the candle flame and ascending through oil lamps, the ordinary gas burner, the incandescent mantle, the carbon filament, the metallic Tungsten filament, the new nitrogen-filled Tungsten lamp and lastly the various forms of arc lamp, we find that they progressively show more and more of an ultra-violet spectrum, until as we explained in our last article, the ultra-violet portion extends for a distance several times as long as the visible portion.

Now, on considering the physiological effects of artificial lights, we find that people who are constantly working around electric lamps, and those who have to test them, suffer from what is known as electric ophthalmia.

Color blindness has been noticed among those who have worked a long time by the light of a mercury arc lamp. Prof. Birch-Hirschfeld has succeeded in producing in the conjunctiva of animals changes similar to those of conjunctivitis vernalis when the eye was frequently exposed to intense electric light.

Ultra-Violet Rays Produce Fluorescence

The ultra-violet rays penetrate also into the interior of the eye and produce fluorescence or fogging of the lens and retina. The fluorescence can be so increased as to produce a reflex action of the eyelids and pupil. By the use of the microscope on the eye, changes have been seen to occur in the capsule of the lens after it has been exposed to a brilliant light.

Fluorescence Causes Blurred Image

The fluorescence of the lens and retina produces the effect of a diffused light before the eye. This causes a diminished distinctness of the imprint of the image on the retina, as in photography where a diffused light blurs the picture. When the eye is exposed to a bright light it is impossible to see any object distinctly, and this is principally due to the fluorescence which is produced by the ultra-violet rays.

A Few Experiments

As the ultra-violet rays produce different effects on different parts of the eye two

German professors, Schanz and Stockhausen, have placed the eye, also parts of the eye, between two plates of quartz and exposed them to the light of a very powerful electric lamp. Then, having photographed the spectrum, they examined the light which had passed through the different parts of the eye, with the following results:—the ultra-violet rays next to the visible violet produced fluorescence of the lens and the retina; a portion of these rays traveled unchanged to that part of the retina susceptible to light and these alone were shown to be responsible for the changes in the retina observed through the microscope.

The portion of the ultra-violet rays beyond have little effect on the fluorescence of the lens, but are absorbed very intensely by it and apparently produce as marked changes as those which cause the fluorescence.

The extreme portions of the ultra-violet are absorbed already by the cornea, and produce in the first instance irritation of the exterior of the eye, with a burning feeling and a sense of heaviness, which may increase until the symptoms of snow blindness, or electric ophthalmia, appear.

White Glass Ineffective

It has been frequently stated that ordinary white glass will shut out ultra-violet rays so that they are no longer harmful, but this is not true, the ordinary white spectacle glass will most certainly let through even some of the extreme portions of the ultra-violet which are capable of causing electric ophthalmia.

Ultra-Violet Rays Discolor Objects

One more peculiar property of the ultra-violet rays may be mentioned here and that is, that they possess the property of changing the colors of many substances, such as various kinds of glass. Certain commercial glasses when exposed for a few minutes to a source rich in ultra-violet are observed to take on a pink or brownish tint, according to the nature of the chemical in that glass. This has also been noted in windows in old buildings, which have been exposed to bright sunlight for a century or so. Such then are the most interesting properties of the ultra-violet rays.

The ways and means of counteracting these effects on that most important of human organs—the Eye—will be discussed in the next article.

—H. T. REEVE.

Some Interesting Facts About Engraving Solid Gold

IT IS generally understood that chasing work is the particular province of the jeweler—but when it comes to fine chased work and engraving on gold optical goods it is unnecessary to look beyond the AOCo.

The vast organization that makes everything for itself from gold wire to machinery needs no outside aid on such artistic and delicate work as gold engraving.

The above illustration shows one of the solid gold AO frames, engraved in our factory by an expert who heads a group of expert artisans kept busy on such work.

It was one of a recent dozen lot shipment to South America and China. The fondness of Spanish and Chinese-speaking people for these ornate optical creations is proverbial. A constant demand for them, seldom with regard to great expense involved in such fine stock and work, keeps this expert and several others busy the majority of the time.

Foreigners particularly, visiting the permanent Exhibition Room in our factory where these goods are displayed have been surprised that this beautiful



Specimen of AO Solid Gold Engraved Handiwork

hand work had long been a regular part of AOCo specialty work.

Because of its extreme costliness and the different tastes of the American people little has been said about engraving in these columns. But it may be of interest to know that there is practically no process in optical manufacture which we are unfamiliar with or

unable to handle from the finest down to the simplest proposition.

Our solid gold goods are the acme of perfection, relatively speaking, in carefulness of construction, durability and finish. L. E. Sibley, foreman of our gold department for 45 years, has been noted above all other things for the anxious solicitude and rigid standards maintained under his supervision over gold goods before they leave the factory. With the insistence on perfection characteristic of the Master Workman, he allows no frame to leave his hand until it represents the absolute standard of perfection he set up years ago. Which is one perfectly conclusive reason why AO solid gold spectacles and eyeglasses are found in use twenty years and more. Recommend them now to your patients as Christmas presents for others.

You Have Not Ignored the Fact

HAVE you, that Glad Hands are some of those window accessories that you'll need in the months to come? Something capable of displaying your goods to their best advantage, whether

it be eyeglasses, cases, wrist watches or what not?

When the vacationists come back hating the sight of anything that smacks of home or work, you should have one of these delicately tinted hands right out front in your window to cheer them up. If you've got your window all trimmed



No. 17M52

up—and no window's complete without the Glad Hand—even the grouchy old maid back from an unsuccessful quest will drop her parrot and crowd up to see what you've got. They cost little but do a pile of work. Order by number, 17M52, at \$1.50 each. Copyrighted 1915, and Pat. Applied For.

Crack Shot Uses Noviol in Manoeuvres

Camp Whitman, 1st Brigade, N.G.N.Y.

Fishkill Plains, N. Y.

July 28, 1915.

Gentlemen:—A pair of Noviol glasses were used by me at Camp Whitman during the entire week's camp tour and furnished a complete and pleasant antidote for the bright sunlight which we had for most of the week. The glasses were very restful, and I had no trouble whatever from the glare of the sun. I am now anxious to try the glasses on the Rifle Range in the State matches.

FANCHER NICOLL, Captain, 7th Infantry.

The Automobile is a Necessity!

BECAUSE it expedites business and pleasure and therefore increases man's efficiency.

AOCo Motorglasses cater to every need and comfort of the Autoist.

Send for our New Motorglass Catalogue today—a revelation in styles and prices!

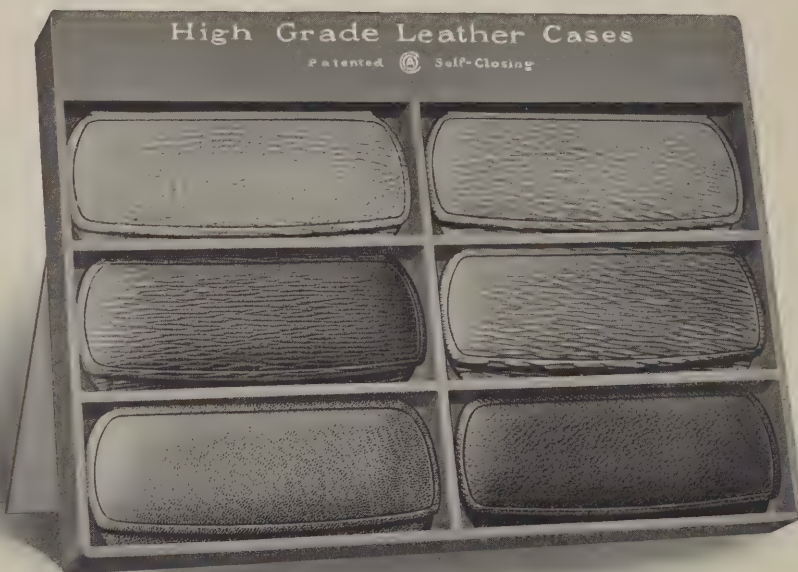


Anticipate the Seasonal Demand for High Grade Cases

THE time is now, rapidly approaching when the enterprising dealer begins to take stock against the coming of the fall and Christmas seasons.

When he comes to cases he will ask what we've got in high-grade leathers that can be properly displayed as an attractive suggestion to the patient. He wants a superfine, padded-leather case, among others, with a smooth working, patented self-closing cover and a graceful, flat design. In short, he wants the best for a seasonal and profitable demand.

So he sees here our latest creation—a set of six genuine leather cases of the best AO design and workmanship. The set satisfies him on price, \$4.50, including display stand—and in its other features above enumerated he knows, after examination, that it is all we



A Display Set of Highest-Grade Leathers. Complete, \$4.50

represented it to be. To go into still greater detail:

Style No. 1 in the upper left-hand corner of the illustration under the word "High" is our sturdy Tango tan, high-grade calfskin leather. Below this is the second style, a long grain, handsome black, in a genuine seal leather. At the bottom is the Triplain—a

third style in grey goatskin leather, smooth and hard-wearing. The two styles at the top of the next column show the grey and the brown Lathian—imported calfskins, of delicate grain and subtle appeal to discriminating taste. The sixth style, at the bottom, shows a beautiful brown, pearl grain goatskin.

If properly placed on the counter or

fitting table and suggested to your patient, after the fitting, as a desirable purchase, these cases should be a profitable proposition for Mr. Dealer. This set complete is sold only in this combination, but orders for individual cases in the collection can be obtained promptly. Order from your jobber.

A Sign That All May See and You May Prosper By

IF A man comes into your store with an exact knowledge of what he wants to buy he saves both your time and his, doesn't he? If he has read

about Fits-U optical goods in a national magazine, or seen a handsome red and black sign "Fits-U Optical Shop" over the sidewalk entrance, the chances are you have been saved the time and labor of explanation and have gained the profits and prestige of a standardized

line, haven't you?

With this issue we are offering free one of the finest opportunities ever afforded a dealer to link up with a world-wide known brand of goods, and cash in on its reputation and the name he will make for himself as the local agent of Fits-U optical goods.

This handsome free proposition is the red and black 9" x 11" sign—No. 5W22—here illustrated. It is made of sturdy metal with waterproof enamel and a flange, so that it is easily attachable to the front of your store over the sidewalk and strikingly visible from up and down street. The same design—a brilliant eye and the red lettering "Fits-U Optical Shop" appear on both sides of the metal. Make yours a Fits-U Optical Shop, advertise the fact and the goods in the local papers, and create a name and profits for yourself as the man who sells Fits-U goods in that locality. Order by No. 5W22.



Order by No. 5W22



The Sign of the Times

Amoptico

Reg. in U. S. Pat. Off.

Vol. IV August, 1915 No. V

Published Monthly by
American Optical Company

1833-1915

Channing M. Wells President Albert B. Wells Treasurer

J. Cheney Wells
Vice-President and Secretary

General Offices and Works

Southbridge, Massachusetts, U. S. A.



New York 15 Maiden Lane
Chicago 5 S. Wabash Avenue
San Francisco 140 Geary Street

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Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.

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You Made Me What I Am Today



Catch me before
I shoot, Oscar!

YOU remember the song, "You made me what I am today?" I can safely say that your advertising material has helped me a great deal—and I am waiting to get some more, because I can't get enough.

(Signed) ONE WHO GOT WELL.



Our "Kinkless" Chains Are Fit for Royalty

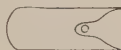
Do you remember how eyeglass chains used to get all tangled up and what a nuisance it was to get the kinks out? The way we make chains now has done away with a lot of this trouble. Links are now individually soldered whereas we used to solder two links together.

Now the AOCo chains are flexible, better finished and they give less trouble. Moral, specify AOCo Eyeglass Chains from your jobber.



And Still They Come!

Oscar L. McCulloch, optometrist of Holyoke, writes:—"Perhaps you would be interested to know that when Crookes Glass first came out I ordered a pair of the dark, "B," tint for a patient in Porto Rico for use on the water. His was a very sensitive case, and the sun upon the sea caused a conjunctivitis. Now he writes me he has perfect comfort. He can use them for all out-of-door purposes."



Chester, Pa.,
June 10, 1915.

Gentlemen:—I received your catalogue this morning and wish to express my appreciation for same. I think of the catalogue the same as I think of the American Optical products and that is, it is the best that ever came under my observation. I have in my possession one of the catalogues which you put out in 1894, in perfect condition with the exception of discoloration from age. My name with the date of August 5, 1895, is on the front page. In comparing the two I think it shows well the progress made in Optical lines.

Twenty years ago when this catalogue was issued, I thought it was about the high limit in good catalogues, but it looks small compared with the one I received today.

(Signed) DR. WM. M. LOMBARD.



Toledo, Ohio.
April 9, 1915.

AMERICAN OPTICAL Co.,

Gentlemen:—I wish to state that you may use every letter or any part suitable for your publicity in order to prove the value of your manufactured goods for the Optical trade, as I am in earnest when

I say that the articles manufactured by the AOCo are the best possible in workmanship and that every article gives satisfaction to the dealer and customer.

Would it be too much to ask you to send me a supply of the little leaflet "Kryptoks, a Catechism You Should Know!" I lay to this little artistic leaflet my increase in the sale of Kryptoks—and that's why I would like to have a supply of same, as soon as you can send them to me.

Please accept my thanks for all past favors—you have helped my business wonderfully with your aid in publicity; I could never in a thousand years have got the artistic designs your Department is capable of producing, and this helps wonderfully.

I wish you success.

(Signed) B. MILLROOD.



Solid Gold Goods Are the Standard of Value

There are plenty of people who are satisfied only when they can get the best that is to be had in anything and are able to pay for it.

Don't lose your nerve when it comes to making a sale. The man who wants gold goods would probably take gold-filled if you offer it. Why not assume at the start that he wants gold—why not make up your mind that he needs gold to satisfy his own self-respect—his vanity if you please—or his wife's!

It is perfectly reasonable for anyone to desire a gold watch or chain or ring—why not a gold frame or mounting? Glasses are more conspicuous than rings or watches or chains and more useful, too.

If you have made up your mind that your customer is a gold prospect, don't surrender without an effort. Go right to it and talk gold with perfect confidence. Everybody knows gold is good "dope" and costs what it is worth. A gold sale means a satisfied customer, a valued customer worth having, worth all the sale's effort, whatever way you look at it.



Live Selling Helps

Aoptimisms

THE Kryptok idea in advertising is to see the value of store and window advertising without losing sight of the long-distance work of newspapers, booklets and street car cards.

You pay a higher rent to have your show window on a busy street. You need a busy window in order to get your money back.

No eyes are too defective to miss your advertising in your local paper if you put it there.

August would not be a dull month in the optical trade if more grinding were done.

Goods well displayed are sales half made.

A prescription for business astigmatism: a belief in your ability and a belief in your goods, backed up by a belief in advertising.

Your windows are the eyes of your store. Are they looking out for trade by getting trade to look in?

The moving picture houses appeal entirely to the eyes. Are you taking advantage of this opportunity to appeal to those eyes that need your services?

To think you can succeed without advertising is an optical illusion.



Can We Help You With Your Window Display?

Too many optometrists and opticians are inclined to underestimate the importance of good window display. This is a very great mistake. The largest and most successful retailers in this country almost without exception devote much care and attention to their windows and regard money spent on good displays as a mighty profitable investment. The United Cigar Stores, for instance, attribute much of their success to their excellent window displays.

The Advertising Department of the AMERICAN OPTICAL COMPANY is always glad to help AOCO dealers to get up attractive window displays. Write

to us about it. Tell us what goods you want to feature or your plans for any special sales, and we will tell you what we can furnish in the way of advertising displays, window cards, advertising specialties, etc. We have a complete line of selling helps of this kind, and can usually make helpful suggestions. In future issues we shall also show you photographs of well-arranged windows that have proved successful in selling optical goods. There is no charge for this service and many of our selling helps are furnished free.



If Advertising is Worth Doing, it is Worth Doing Well

THE dealer who gets real results from advertising is the man who goes into it whole heartedly—and then sticks. It's hardly fair to expect occasional, spasmodic advertising to bring the crowds flocking to your store. To do that your advertising campaign must be intelligently planned to reach all available prospects, and it must reach them regularly.

On the opposite page we show a complete local advertising campaign for the optical dealer. If you run all of these advertisements regularly it won't be long before the hardest thing to find in your town will be a wearer of glasses who doesn't know your name and business. You will get them going and coming, and your sales ledger will soon begin to show the results.

Successful advertising is a good deal like the proverbial drops of water on the stone. The stone doesn't take much interest in the first few drops, but after a while the steady drip-drip-drip will make a dent in the hardest granite.

Perhaps sometime you tried advertising half heartedly, and have decided that it "doesn't pay." Honest, now, did you give advertising a fair run for its money? Because if advertising really doesn't pay then many of the biggest, shrewdest and most successful business men in this country are simply throwing away hundreds of millions of dollars every year!

Don't say that advertising "doesn't pay" until you have made a real test of what it can do for you. And the best and quickest way to do that is to send for the complete set of advertisements shown on the opposite page—and to use them.

For AOC Co Dealers



One customer sees a window card that brings her into your store.



Another customer misses the window card but sees your ad in the newspaper, and that brings him in.



Still another customer misses both your window card and your newspaper ad, but sees your movie slide and that fetches him.

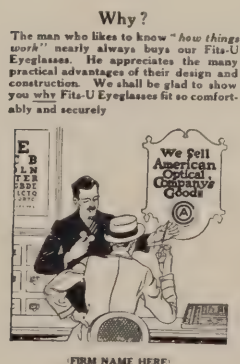
A STRIKING window card, a strong newspaper ad and an interesting moving picture slide are all good trade getters, but if you use one and neglect the other two, you may lose two customers for every one you get.

See page 94 for new steel sign (free) to identify your place of business with this publicity and make it easy for the prospect to locate your store.

Window Card



Newspaper Ad



Lantern Slide



Order these and use them. *Furnished Free.*



Live Selling Helps

Now is the Time and This is the Way to Push Crookes Lenses

ANY optician or optometrist who has a good stock of Crookes Lenses and is complaining of summer dullness is missing a good bet somewhere. And it's a ten-to-one shot that the missing link is advertising.

The illustration on this page shows that we are doing our share to help you out. There is no charge for these newspaper ads and any reasonable quantity of the booklets will be supplied free imprinted with your name and address. There are other Crookes newspaper ads, too, which lack of space will not permit us to show here. We will be pleased to send you cuts on request.

These days of glaring sunshine while your customers are preparing for vacations and outings by seashore, lake and river are the best of all times to talk up the wonderful protection given by Crookes Lenses. Tell your customers about the harmful effects of glaring light and the danger from ultra-violet rays in brilliant sunlight. Give them copies of the booklet and send them out to your mailing list. Run the newspaper ads in your local paper.

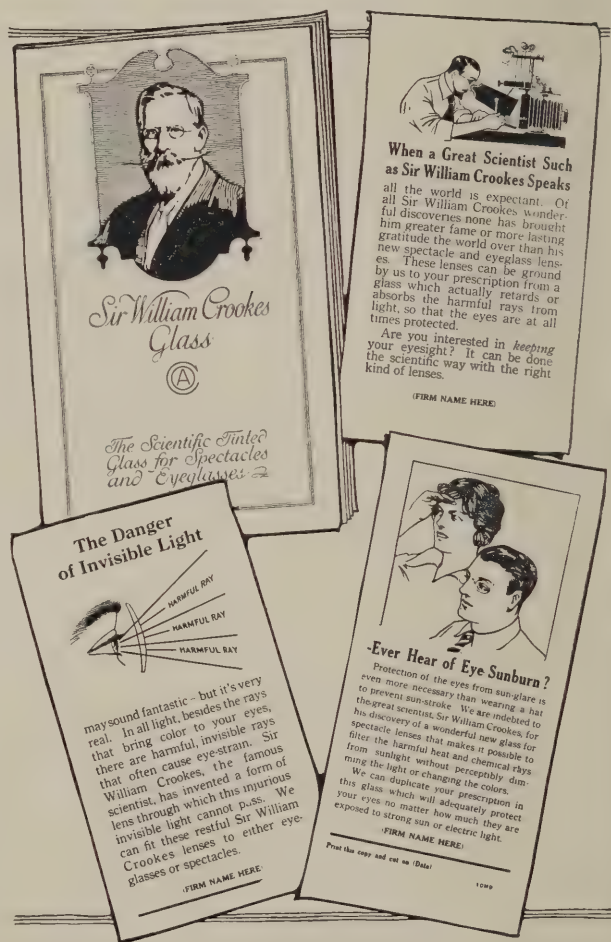
You will get immediate results, for the whole subject is new and timely and of fascinating interest to wearers of glasses. We anticipate a big demand for these Crookes Lens booklets and newspaper ads, and we ask that you send in your requests promptly so that there will be no disappointment or delay. Please advise the exact wording in which you wish your name and address printed on the booklets. You can order Crookes Lenses from your regular jobber.



Special Advertising Helps For Individual Dealers

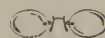
In a previous issue of AMOPTICO we told you about the special advertising service we are now giving individual AOCo dealers. This department of our work is becoming increasingly successful, and we want to make sure that all our friends understand exactly what this special AOCo service means.

It means that we are always ready to help any AOCo dealer, big or little, with any problem relating to the selling or advertising of optical goods. Elsewhere in this issue we have told you what we can do to help you with window displays and advertising helps. We are ready, too, to write for you special circular letters and newspaper ads featuring any par-



ticular line of AOCo goods you want to push. In a word tell us what you want to do, and we will help you do it.

In writing tell us as fully as possible just what your plans are, and the particular goods you want to feature. Do not wait until the last minute to take the matter up. You will understand, we are sure, that it requires time to get up special advertising matter of this kind, and to secure the best results we must be able to give your plans careful attention and have an opportunity of corresponding with you about any doubtful points.



Optical Opportunities in the Schools

Intelligent educational work among the parents and teachers of school children undoubtedly offers one of the best and quickest means of increasing

For AOC Co Dealers



optical sales. Are you giving the proper attention to this very important matter?

We have a complete advertising campaign on the subject, which we shall be glad to furnish in any reasonable quantities imprinted with your name and address at a nominal cost. AOC Co dealers who have undertaken educational campaigns along these lines have obtained remarkable results. The first and most important thing to do is to get a complete and accurate list of parents and teachers. The circular matter should then be sent out at regular intervals accompanied by letters explaining that you are making a specialty of the care of children's eyes. If possible, get in personal touch with the school teachers, and try to interest them in your campaign for better care of children's eyes. The cooperation of the teachers will do much to make your campaign a success.

Write us today for samples of the booklets and circular matter and full details of the best means of going after this profitable business.



Are Your Mailing Lists Complete and Up-to-Date?

The most attractive and convincing advertising matter in the world will fail to produce business if it is sent out to old, inaccurate mailing lists. Everyone will agree to this statement without the slightest question, and yet the fact remains that an accurate, up-to-date mailing list is really the exception rather than the rule.

How often do you go over *your* prescription record lists? Have you any system for keeping them up-to-date, removing worthless names and adding live new ones? Are your lists properly classified?

Look to your lists. They're important.



They'll Flock to See Your KeeLock Stock

THE newspaper ads will bring them, and the KeeLock will do the rest. You have something well worth talking about in the KeeLock, and these live ads will do your talking to the best advantage. They will talk to people that you couldn't reach in any other way, and bring you new customers. The KeeLock is such an attractive, novel mounting and so sure to satisfy that it is a mighty good thing to sell to new customers. It will bring them back for other goods.

It pays the optical dealer to advertise at any time, but above all when he has some interesting novelty to offer. It lets the public know that the advertiser is an alert, up-to-date optician or optometrist, fully posted on the latest developments in his profession and able to furnish modern goods and competent service.

That's the story these KeeLock ads shown in July AMOPTICO will tell for you. Use them.



Schoolboy Window Display, No. 17 D3, \$1.50 per Set

What Do People Buy the Onepiece Bifocal For?

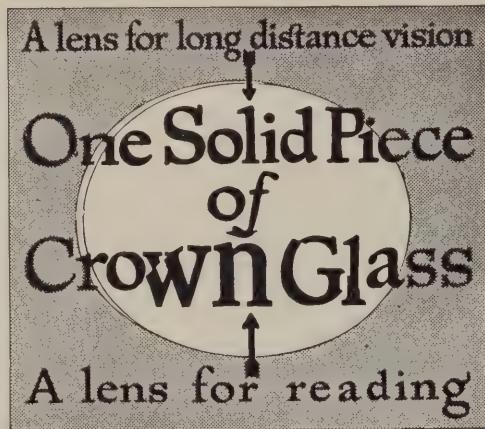
NO SANE person wears glasses solely for appearance sake—that's too much to expect. If the comfort derived from being able to see things clearly through the right kind of glasses did not compensate for every possible disadvantage no one would wear glasses at all.

But how about the fellow who must have two pairs—for reading and distance? He has to put up with a lot of bother to see off or to read, you say.

That's true, very often he does—if you are one of those fellows *you know it too*.

We are reminded of the plight of the elderly lady who said she had to have three pairs of glasses, one for "fur off," one for "nigh-to" and one pair to be able to hunt for the other two.

It is a perfectly natural or, at least, a usual condition for persons of mature age to require different lenses for "fur off and nigh-to," but in these days of the wonderful new Onepiece Bifocals it is no longer



Onepiece (Patented) Bifocal
Reg. European Trade Mark UNI-BIFO (LUXE)

necessary to bother with two separate pairs. Both near and far lenses are ground on a single solid piece of hard scratch-resisting optical glass, making the lightest and most inconspicuous bifocal possible.

No visible line or mark can be seen by the wearer or the observer to advertise the fact that the eyes need two pairs of lenses. The wearer of Onepiece (Patented) Bifocals shifts his vision quite unconsciously from printed page to distant scene.

Onepiece Bifocals are optically accurate, more perfect for your eyes than any other form of bifocal ever devised. They are a great scientific achievement in lens making, a blessing and a boon to the man or woman who now knows the discomforts and annoyances of ordinary double-vision glasses.

No matter what your prescription may be, no matter whether you prefer eyeglasses or spectacles, Onepiece Bifocals are distinctly worth knowing about. Have you given them their proper consideration?

The New Roadster Satisfies on Price, Style and Deliveries

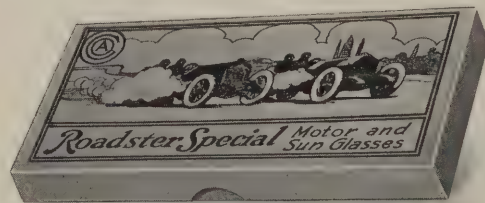


One of our
colored set

SEASONED with timeliness we now bob up with a brand new style in Roadsters. Our salesmen told us a considerable portion of trade expected an addition to AO Roadster's family about August and that they hoped it would have Zylonite temples, moderate price and quick deliveries.

The addition has appeared and proved to the entire satisfaction of its creators a promising and unusually handsome youngster with all the qualifications aforementioned.

Besides the zylo. temples and the blue and grey case of special design, the Roadster Special carries a *certainty of speedy deliveries* from stock and a price no



higher than the rest of the family—in fact the prices are identical—\$5.25 per dozen.

We wish we could take you into the parlor and give you an earful on how it all happened. But that would seem very gossipy; besides, in putting over a "beat" of this sort we should never want you to tell that the Roadster Special is ambushed in large numbers in stock, ready for business. We wouldn't want it whispered around that our price is considered ultra-reasonable by the "insiders" here. These are strictly confidential things we write, because you have inquired for Roadster Special. If you would like to see him we'll send you the handsome little fellow—R8050—for \$5.25 a dozen through your jobber.

There's a year-round use for these colored glasses in amber, Fieuzal or smoke. Your turnover should be certain.



Roadster Special R8050, Patented.



PRACTICAL TALKS WITH THE PROFESSION



If you have any problems or questions send them along. This is Your Page.

New York, April 2d.

Gentlemen:—Read with interest your article in the March AMOPTICO on "Colored and Tinted Glasses." Would you mind stating your authority for the statement that "by experiments on animals and the human eyes, too, it has been proved beyond a doubt that 'electric' Ophthalmia is entirely due to the ultra-violet rays given off by electric light."

Before this on same page (5) you state ultra-violet rays destroy bacteria. Would like also to know what proof has been presented to show this.

In the 1909 investigation of Cataract Committee, what do you mean by "large and increasing number of cataract cases?"

I am not critical, as your article is good. You simply make statements I have never heard proved and would like to learn your authority.—Jobber.

April 5, 1915.

Answer:—I am pleased to acknowledge your personal letter of April 2d with regard to certain statements in my lecture on "Colored and Tinted Glasses."

The first statement was that by experiments on animals and the human eyes, too, it has been proved beyond a doubt that "electric ophthalmia is entirely due to the ultra-violet rays given off by electric light."

Sir William Crookes in his great papers states that "it is certain that exposure to excessive ultra-violet light also injuriously affects the eye." Numerous German scientists have made very careful experiments in this direction. Dr. Schanz and Dr. Stockhausen have placed the different parts of the eye between two plates of quartz and exposed them to the light of a very powerful electric lamp,—they then have photographed the spectrum and examined the light that had passed through the different parts of the eye with different results. Different portions of the ultra-violet were found to cause changes in the retina, observed by a microscope.

Further portions of the ultra-violet have little effect on the fluorescence of the eye lens, but are strongly intensified and appar-

ently produce marked changes other than those which cause the fluorescence.

Ultra-violet waves of still shorter length are absorbed by the cornea and produce in the first instance irritation of the exterior of the eye, with a burning feeling and intensive heaviness which may increase until the symptoms of snow blindness or of electric ophthalmia appear.

Prof. Birch-Hirschfeld has observed cases of partial color blindness among those who work for a long time by the light of a mercury lamp. He has also detected by the means of a microscope, anatomical changes in the retina produced by these rays.

The second statement was that ultra-violet rays destroy bacteria. This is largely taken advantage of in hospitals, for sterilizing water, and the armies of Europe are now using a mercury arc lamp and sterilize the water, thus destroying the typhoid germs. The mercury arc lamp is, of course, very rich in ultra-violet rays.

The third statement was a large and increasing number of cataract cases. The Royal Society of London, England, formed a committee which they called the Glass Workers' Cataract Committee to investigate the cause and, if possible, find a means of prevention of the large number of cases of cataracts that occurred amongst glass smelters. They enlisted the help of Sir William Crookes for this purpose and he investigated it very thoroughly between the years 1909 and 1913. In the month of November, 1913, he read his paper on the result of his years of long research. The increasing number of cases was, I presume, due to the increased heat of the furnaces produced by better combustion of the gas in heating them and also presumably because there was a larger number of men engaged in the work.—H. T. REEVE.

Cambridge Springs, Pa.

June 26, 1915.

Gentlemen:—You had a very interesting article in April AMOPTICO pertaining to the proper base-curves to be used in the grinding of certain strength of lenses, etc., etc.

At one point in the article you refer to the fact that where 3 base curve is obtainable it is highly desirable for lenses between minus 2 and minus 4 diopter spherical. Now while referring to this allow me to ask whether it should cost, or **does** cost more to have lenses ground on 3 base curve than on 6 base curve, and why should it, if any additional cost over 6 base? (Signed) W. A. Mantz.

Answer:—In regard to your question concerning the relative cost of 3 and 6 base Torics, would state that it costs no more to grind 3 base than 6 base, providing both are ground in quantities. There is this difference, however, that the 6 base lenses are used on a large scale and are ground in large quantities, and hence carried in stock by the factories and wholesale trade, while the 3 base, on the other hand, are ground one at a time and then to special order, and of course at a much greater cost.

If, in the course of time there should be a greater demand for the 3 base lenses, so as to warrant the factories carrying them in stock, and grinding them in large quantities, they could then, undoubtedly be sold at the same price as the 6 base.

However, conditions are such that it is becoming necessary for every prescription shop, claiming to be up-to-date, and properly equipped, to be able to grind any base curve called for. The AMERICAN OPTICAL COMPANY manufacture and carry in stock regularly toric tools turned to + and — 3, 6 and 9 base curves. These meet most of the ordinary requirements. In addition to these, there is manufactured and carried in stock, a special set of convex toric tools, running from + 5 to + 9 base curve. There are 262 tools in this set, and when the whole set is taken a special price is made for the lot.

These tools are gotten out particularly for One-piece Bifocal work, but come in very nicely for general use: thus, enabling the shopman to grind almost any base that might be given him.—L. W. BUGBEE.

Our Lensdale Superintendent is Noted for Many Things

DOWN banged the receiver! A handkerchief swabbed a humid brow, "Whew!" said the victim, "did anybody ever get Harry Hill on the phone? 'Out in the factory,' they say, but I'll be hanged if I can catch him!"

Had Supt. Hill been sitting still in the twenty years since Lensdale watched him rise he would never have been the executive he is today. Stories are told about his infinite capacity for detail and the unique mechanical ability that has contributed to the greatest collection of optical grinding machinery in the world today.

The constant energy and indomitable perseverance that survived injuries of all sorts, from broken ribs to the loss of many fingers, has been capitalized into success. There are few minutes when the office chair at Lensdale is warm; ceaseless rounds of inspections and consultations with 1200 employees and foremen constitute his daily task. Few men take their responsibilities with greater seriousness than he and this is one conspicuous trait that has held him to his duties with unflagging zeal.

He needs no files—though he has them—to tell at the moment how many lenses are on the blocks, or answer any one of a thousand questions about the plant. He keeps you moving while he travels over the floors, adjusting a matter here, noting a construction there—always busy.

Factory talk tells of Harry Hill as a stern disciplinarian in office hours—a considerate executive—but one who insists on the execution of and obedience to orders and tolerates no interference.

These are some of the working principles that have put him where he is. If you should ask any official what they considered his outstanding qualities, they would say, "Loyalty to the AOC_o, sound business judgment and executive capacity." If you asked the factory force what they thought, they would say, "Enthusiasm for the welfare of employees, active interest in sports, receptiveness and appreciation of new ideas and unbiased judgment in disputes." Consequently, when the big executive councils are held up yonder a most potent factor is Harry W. Hill.

It is this executive who is known in correspondence or person to so many of the trade. During the seven years of his superintendency he has raised the standards of inspection of lenses and other manufacturing methods over twenty-five per cent and brought Lensdale to a high state of efficiency.



Supt. H. W. Hill of Lensdale

The result of this "out in the factory" vigilance is now reflected in the quality of AOC_o lenses. The reflection of Harry Hill in the minds of those who know him out of the factory is that of a "prince"—to use a trite but applicable description. The Hill cottage is the center of Southbridge hospitality, which tells more completely than words about the personality of its owner when away from business cares.

Harry W. Hill was born in Birmingham, England. Educated at St. James' Church School, and came to the United States with his parents in 1888. Settled in Meadville, Pa., entered the employ of the Dick & Church Engineering Co. of that city. Later employed by the General Electric Co., Schenectady, N. Y. In 1893 his parents moved to the Anaconda Mountains and "H. W." came to Southbridge and entered the employ of the AOC_o, working for

Nelson M. Baker, now Supt. of the Fingerpiece Department; one year later was transferred to Lensdale. Placed in charge of Machine Construction and Design. Employed in this capacity for nine years, during which time the Lens surfacing machinery was entirely remodeled and methods and machines perfected for grinding Toric Lenses. This work was all done under his supervision.

After leaving Surfacing Department was next promoted to be Superintendent of what was known as Inspection Department, which then included Machine Shop

and all operations on lenses. During this time he was directly responsible to A. B. Wells, who trained him, in this work, for greater responsibilities. In 1908 he was given charge of the Lens Surfacing and Machine Construction and Design departments and for the next three years much time was devoted to increasing production in Meniscus and Toric Lenses, which were rapidly growing in favor with lens users. In 1911 it was thought best to consolidate the supervision of the entire Lensdale works under one head and H. W. Hill was appointed General Superintendent of Lensdale works, which position he still holds.

During his twenty years of continuous service with the AOC_o remarkable strides have been made in ophthalmic lens work, and it has been his privilege to assist in the development which has put Lensdale on a scientific, efficient basis.



"Over the bridge to Lensdale"

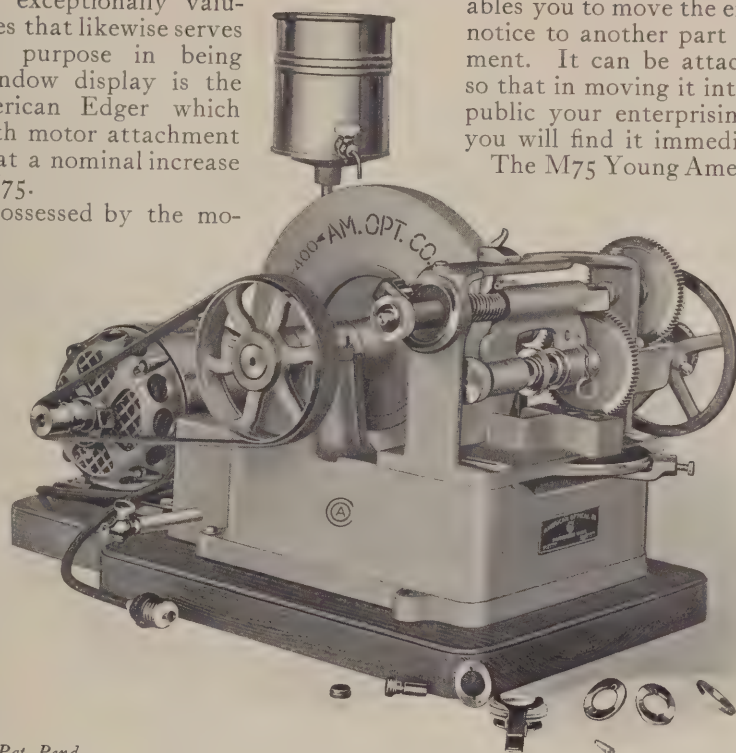


The Young American Complete with Motor Attachment

ONE of those exceptionally valuable machines that likewise serves an artistic purpose in being available for a window display is the M75 Young American Edger which comes complete with motor attachment and other devices at a nominal increase over the regular M75.

The advantage possessed by the motor attached is its completeness. It is a single unit on a solid base and when you receive it you know that every necessity is anticipated by some little device in its equipment. Complete with Motor, it includes six feet of lamp cord, attachment plug, copper drip can, belt and drain.

The advantage of getting this full equipment is very material, for it en-



Pat. Pend.

Complete M 75 Young American Edger, with Motor Attachment

ables you to move the entire machine at a moment's notice to another part of the room in one movement. It can be attached to any lighting circuit so that in moving it into your window to show the public your enterprising and up-to-date methods you will find it immediately adaptable.

The M75 Young American has come to be known as a wonderfully fine moderate-priced edger. The added motor equipment still keeps it within economical bounds while adding accessories that increase the efficiency of both machine and operator.

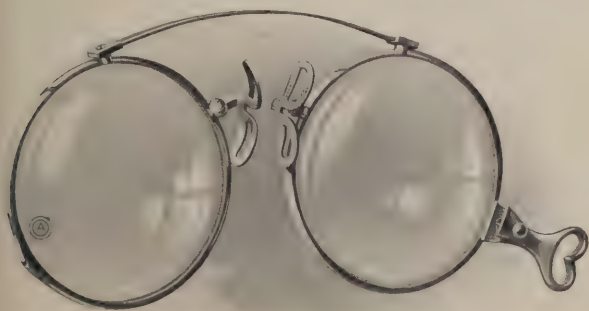
This combination of motor and edger is sold complete, for \$120. Send for circular 16F6, which tells how to operate it.

The Real Varsity Test is Endurance

A CUSTOMER recently took up a folding varsity along with a competitor's. He un-snapped ours and it sprang silently apart, ready for work. The other he snapped, the guards clicked, a ring like the first-round bell resounded and he said "See? Yours lack the stiff ring!"

There are lots of absurd features like these in optical frames and eyeglasses that capture the fancy of even the hard-headed dealer. They are not essential.

The new style No. 4745 gold-filled folding Varsity before you is sound in essentials and correct in details. Its feature is the new shaped guard, divided, as you see, with the advantage of greater adjustability.



Varsity 1/10 12 K, No. 4745, Patented.

The spring is made light and stiff so as to ensure the frame snapping back true into the plane of the lenses. The frame is made of our splendidly finished gold-filled 1/10-12K stock at \$22.50 per doz. through your jobber.

Our New Lens Cleaners' First Bow!

FOR many years we have delayed going into the manufacture of Lens Cleaners; this despite many urgent requests from time to time.

Within the past six months we decided to produce them. What then did we inherit? We inherited the benefits of our predecessors' experience. We made an exhaustive study of the texture of all lens cleaners on the market. We had chemical analyses made of their cleaning compounds. What did we find? Namely, that many of the lens cleaners, so-called, had no cleaning constituency to them at all.

With these constructive and destructive helps we cast about for a finishing house that produced a scientific-and-practical-working cleaning compound. We procured a cloth of sufficient fineness to give a soft, unglossed feel and yet of sufficiently coarse texture to take a maximum of cleaning compound.

Today, therefore, we make our first bow with the new Lens Cleaner—soft, without sheen, in pink or blue, "pinked" edges and positively the best on the market. \$7.50 per thousand with one large Fits-U cleaner, 11½ x 15½ inches, for use at the fitting table, free with each 500 cleaners. No orders accepted for less than 500 by your jobber.

Breaking Ground With a Brand New Chain Proposition

W E CAN tell by the efforts of others that the new AO chain and eyeglass holder lines have begun to take on added impetus with the trade.

Probably the revision of styles and prices in our entire line, combined with the superior merits of these AO products has been noised about and favorably commented on by those who've seen them.

For instance, our representative stepped into a concern the other day that has persistently adhered to the chains of another manufacturer for some years. He talked little, but showed his line—a brand new array of new styles at attractive prices. "Well, sir, I had no idea you had such a line" and the sale was completed then and there. This is only one instance where the new varieties and prices of the AO line are breaking their way through with even the most conservative.

One chain, exclusively an AO design of superior merit, is the famous beveled-link chain, No. 364 in 1/10 12K or 1/10 14K quality whose appearance is strikingly beautiful be-

cause of the novel arrangement of the links. It possesses extraordinary flexibility.

Another style equally attractive is our fine link curved chain, No. 351 1/10 12K and 1/10 14K, which now appears remarkably free from kinks.

In solid gold chains an excellent proposition is one of the new styles, No. 62-H 1 10K that has interested most of the trade, wherever seen, to date. According to Hoyle it's perfect physically, and will bear all the wear and tear an eyeglass chain gets, without losing any of its good looks.

Incidentally, the new coverings for our chain goods are worthy of some note as examples of exquisite taste and design. A dozen chains, each in a glassene blue and white envelope through which the gold chain is handsomely visible, in turn are contained in a blue and white box of same design. A large container, holding a gross, includes the dozen boxes. We also



Dozen Individual Chains in Dozen Individual Boxes

have these containers carrying half and quarter grosses. Anticipate the fall and winter season now.

"KeeLock Holds On by Its Tongue"—Nelson M. Baker

I F the looks of the proposition were no consideration," said N. M. Baker, who developed cemented mountings for the AO Co and wears one of his own besides, "I could take off the beveled wings of the KeeLock and she'd hold forever with the tongue alone. And even then the lens would have to break before the key or tongue would give."

This was a long speech from him; we decided he must have spent some AO time testing his theory and was full up to the front teeth with information. He was, so he needed no urging, continuing with "But for the sake of appearance and additional strength—beyond reach of all criticism—the KeeLock has

these beveled wings. They steady the mounting, give it a splendid appearance and add another cement-adhering surface with their under side. So that the KeeLock holds both along the plane of the lens and at right angles to it.

"The other day I took four KeeLocks in another test, with 1 3/4 mm. thick lenses. I tried them on a direct pull. The weight applied on the first two was twenty-eight pounds, thirty-five pounds on one and forty on the last. The KeeLock would separate only by the breaking of the glass. The nearest result on the old style straps I tested, showed less than one-half the efficiency. What do you think of that?" said he.

"It ought to be put in Amoptico," sez I. So here you have it.



Newspaper Comment On \$80,000 Rice Salesmen's Awards

CONSIDERABLE interest attaches to the achievements of several salesmen in the employ of the American Optical Company, who have won for themselves some beautiful and substantial awards for highest efficiency in salesmanship, in a contest conducted and just brought to a close by the Rice Leaders of the World Association of New York. By invitation, the Southbridge concern is a member of that Association.



Chief among the awards given in the contest is a fine Overland touring car, shown in the illustration, which was won by Manager James P. Petherick, of London, England. It is a late model affair, fully equipped and specially finished. The contest in which he won this acceptable prize was conducted during 1914-15, and ten thousand leading salesmen of the world took part. There was sharp and decisive competition and in view of trade conditions his forging ahead is a source of satisfaction and pride to his firm, himself and friends. It is a signal tribute to his ability, because it represents a combination of enthusiasm and energy, manifested in such substantial way that it bears real individuality.

Arnold Moseley of London, England, Managers Frank N. Kreissl of Chicago, Albert C. Smalley of San Francisco, and John H. Bohling of New York, and other representatives of the American Optical Company, also got high-class awards for their efficiency. These are in the form of specially-designed, solid gold Elgin watches, each worth several hundred dollars. They are handsomely engraved with the re-



cipients' names, and upon each watch is set forth the reasons for its bestowal.

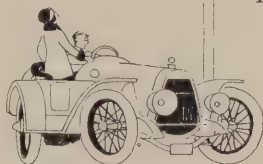
In addition, four other salesmen of the American Optical Company have made such commercial strides that they are to be given fine awards of merit. They are Ferd. Kropff, W. H. Hurlburt, R. S. Turner and A. C. Witt. These awards of merit are handsomely engrossed with the names of the recipients, that of the Association and various members.

The formal presentation of the automobile and watches and awards of honor was attended by Mr. Carson, Advertising Manager, and John H. Bohling, Manager of the New York office. These same persons attended the elaborate banquet given on Saturday evening, at the Waldorf-Astoria, at which 400 were present. The Hon. Job Hedges, of New York, one of the most prominent men in the Empire State, was toastmaster. At that time the formal presentation of the \$200 solid gold watches and awards of honor took place.

Among the awards made were forty specially-finished automobiles, worth \$50,000, besides \$30,000 worth of specially-designed, solid gold watches, and a number of handsomely engrossed awards of honor.

On Saturday, June 26, the awarding of the automobiles took place before Grant's Tomb on Riverside Drive and the procession of the prize cars, with their famous occupants, moved down Broadway into Madison Square, and up Fifth Avenue to Central Park highly esteemed by admiring thousands. Attached to each car was a velvet banner, containing the Emblem of the Rice Leaders of the World Association and indicating those who have gained such distinctive reward for highest efficiency and salesmanship.

At the conclusion of this great event the prize awards were sent to all parts of the world.



*Presentation Ceremonies Before Grant's Tomb on Riverside Drive
J. P. Petherick, London, Winner. O. B. Carson accepting the car from Mr. Rice*

Noviol and Visual Acuity Run Hand in Hand

IT becomes increasingly obvious to the average man in the street that our present-day methods of living necessitate the possession of more than one or even two pairs of glasses. We come, therefore, to scientific Colored and Tinted glasses. Tinted glasses are recommended for all-around wear; Colored for vocational or special purposes, such as shooting, golf etc. Noviol is a Colored glass.

Fundamental Principles in Use of Outdoor Glasses

There are certain fundamental principles concerned in the use of outdoor glasses which have hitherto been almost overlooked.

In the first place let it be clearly understood that except under very extreme conditions it is possible to shut out the glare from sunlight and yet not reduce the illumination required for good vision. In fact, we can go still further and make the assertion that we can increase our powers of keen vision and yet remove discomforting glare from the eyes. But this cannot be accomplished by any of the so-called cheap sun glasses.

Another fundamental fact that must be borne in mind when selecting glasses for keen vision, is a glass that must cut out the ultra-violet rays, also the violet and some of the blue. Theoretically, one would obtain the sharpest image on the retina with monochromatic yellow light, but in practice, if one wants to cut out all the light except the yellow, one would not only lose a considerable amount of illumination, but the effect on the eye would probably be very unpleasant. However, it is not unpleasant to cut out the violet and blue light, and the increase of visual acuity by cutting them out is so marked, and the sharpness of detail at a distance so increased, that the results are really wonderful.

Nearly everybody knows that one can obtain a sharper negative in a camera by using a ray filter than without the filter; but it might be thought at first that as the camera requires a longer exposure

cover the proper glass which fits in with these theories and possesses the required properties. The answer is Noviol Glass. On comparing Noviol Glass with the so-called sun glasses made of Amber or Fieuzal or other yellowish-green glasses now on the market, we find that the Noviol will cut off the violet and ultra-violet more completely than any of them, while at the same time it will let through the red, yellow-green and blue according to the depth of shade of the Noviol better than any of the others. Therefore, with this Noviol glass it is possible to reduce glare and discomfort and yet have a keenly accentuated vision either of near objects or distant ones. This is a great deal to claim for any one glass, but these claims can be amply substantiated both theoretically and practically.

Noviol Advanced Beyond Experimentation

Noviol has now advanced well beyond the experimental stage; in fact it is having a large and increasing sale, as its wonderful properties are being realized and utilized. The difficulties that were once in the way of the manufacture of this glass as a commercial product were both many and serious, but have now been absolutely overcome and the quality of Noviol blanks today will bear comparison with best quality white glass and this again is an achievement of great merit. In fact, the production of this glass into a commercial article and the endowing of it with such wonderful properties certainly stand out as the most successful undertaking in the line of optical glass manufacture in this entire country. It augurs well for the future prospects of this business that the first attempts should have been so brilliantly successful.

The Three Shades of Noviol

Noviol glass is now manufactured and sold in three shades: The A shade

is a very faint yellow color and when in a thin lens can almost pass for a white glass. Yet, it has the property of cutting out all the ultra-violet and some of the violet so that it accentuates vision of either near or distant objects. In fact, it is a glass that can be worn in place of white glass and it has those many advantages over white glass.

The B shade

is a lemon yellow color and is undoubtedly going to be the sporting and motor glass of the future. It will cut out all the ultra-violet and all of the violet as well as some blue and yet it will let through the red-yellow and green undiminished. Therefore, it will give wonderfully keen vision, at a distance, to the driver of an automobile, or a person playing golf or out shooting; in fact it has even been worn with great benefit in place of white glass, by many people.

The C shade

is a bright yellow color and is recommended for occupational uses where brilliant lighting effects have to be encountered, either artificial or natural. It will give the same clear and enhanced vision as the A and B shades and by cutting out the ultra-violet, violet and all the blue, it is still more of a ray filter than the A or B shade. Such then, are the uses and the field for Noviol glass and yet so many and divers are the various fields open for present day glasses that it is impossible to expect even such a wonder as Noviol glass to cover all these fields.

SPECTRUM

Invisible	Visible	Invisible
Ultra-Violet	Violet	Infra-Red
(Actinic)	Blue	(Heat)
Rays	Green	Rays
(Harmful)	Yellow	(Harmful)
	Red	
	Rays	

when a ray filter is used, so the light would be correspondingly reduced in the eye. This is not so, however, because the eye can see best with a yellow-green light. In fact, over 90 per cent of useful visual light that enters the eye and acts on the retina is the yellow-green and red light. This has been proved over and over again in a way that allows of no argument.

Noviol the Proper Glass for Vocational Use

Having now gotten our theories based on actual facts carefully worked out, the next step is to dis-



The Professional Man is Distinguished

IMMEDIATELY by the grip he carries outside the office. Whether on duty or pleasure bent the lawyer is quickly recognized by his green cloth bag or his leather portfolio. The little black satchel and the doctor are inseparable in the public mind.

But styles change. Education has created a new professional necessity; the shabby, makeshift instruments of yesterday have consequently given way to neat, precise and compact accessories of today.

One of the most popular of these is our No. 2631 traveling, suit case style in tan or seal grain leather—light, serviceable and compact. The oculist or optometrist who is called beyond his office for examinations will find that it includes every essential—style, utility, and precision. Guarantee your services with accurate trial sets.

No. 2631 is furnished with the "D" assortment of lenses.

Spheres: 35 pairs, each convex and concave. Cylinders: 21 pairs, each convex and concave. Prisms: 7½ pairs.

Discs and Colored Glasses; 18 as follows: 1 blank; 2 each pinhole, stenopeic; 1 each Maddox rod, white and red; blue shades, 2 and 4; smoke shades, 2, 4 and 6; half-frosted Maddox prism; chromatic test and 2 cross lines. 1 set test types. No. 2387 Wells temple and No. 2220, single cell, straight temple. The trial rings supplied with No. 2631 are known as No. 1801 Alumnico, 38 m/m diam.

No. 2631 is sold by all jobbers for \$65.50

Other dress-suit case styles cost from \$38.50 to \$73.50

Scoring With Kryptoks!

The player who stops at first to congratulate himself seldom scores. Getting to first is a good start, but getting home is what wins games.

Getting people into your store or office is a good start but making sales is what counts. The

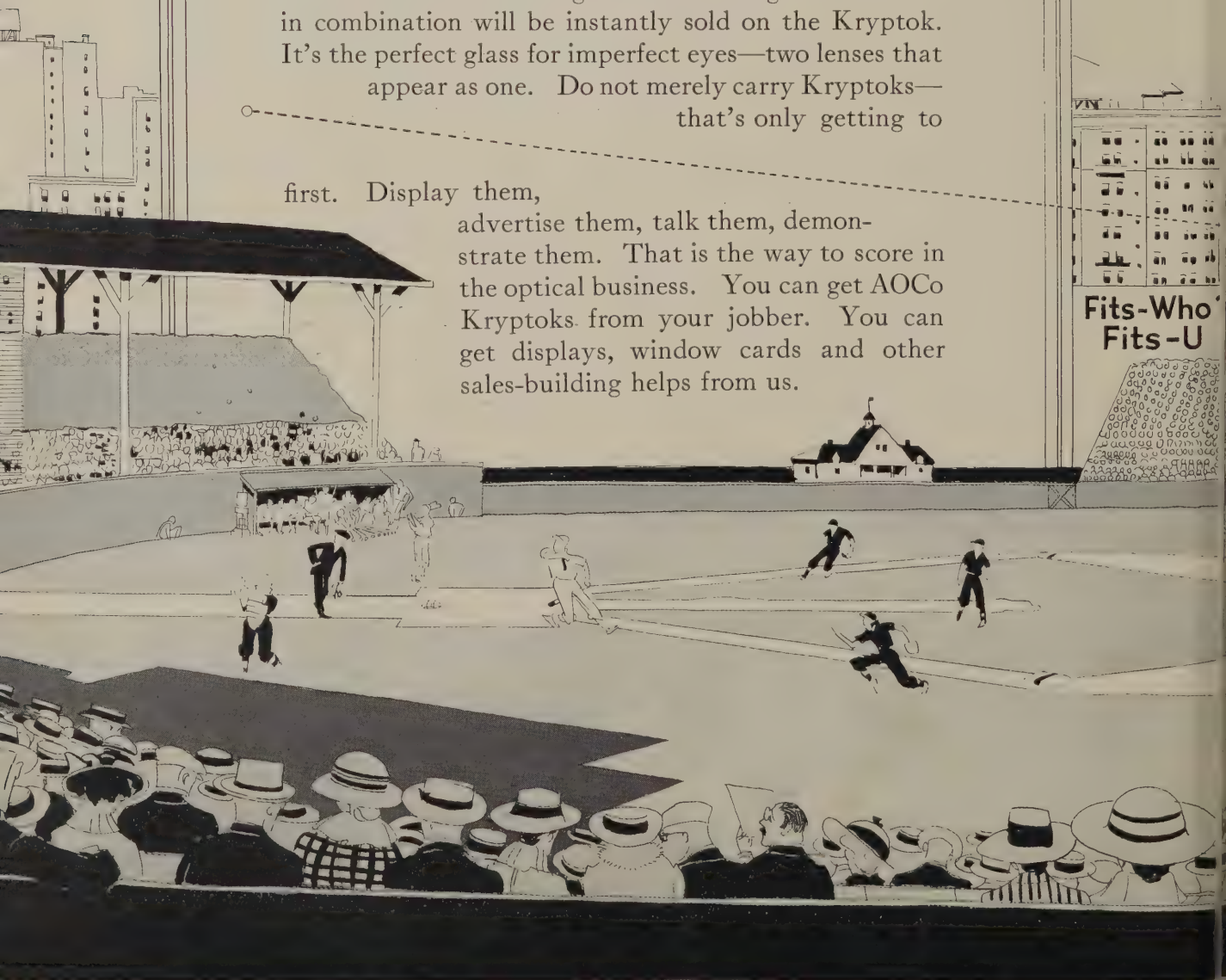
AOC Co Kryptok Lens

is more than an attention getter; it is a sales getter. Whoever needs a reading lens and a long-distance lens in combination will be instantly sold on the Kryptok. It's the perfect glass for imperfect eyes—two lenses that appear as one. Do not merely carry Kryptoks—that's only getting to

first. Display them,

advertise them, talk them, demonstrate them. That is the way to score in the optical business. You can get AOC Co Kryptoks from your jobber. You can get displays, window cards and other sales-building helps from us.

Fits-Who
Fits-U



Amoptico

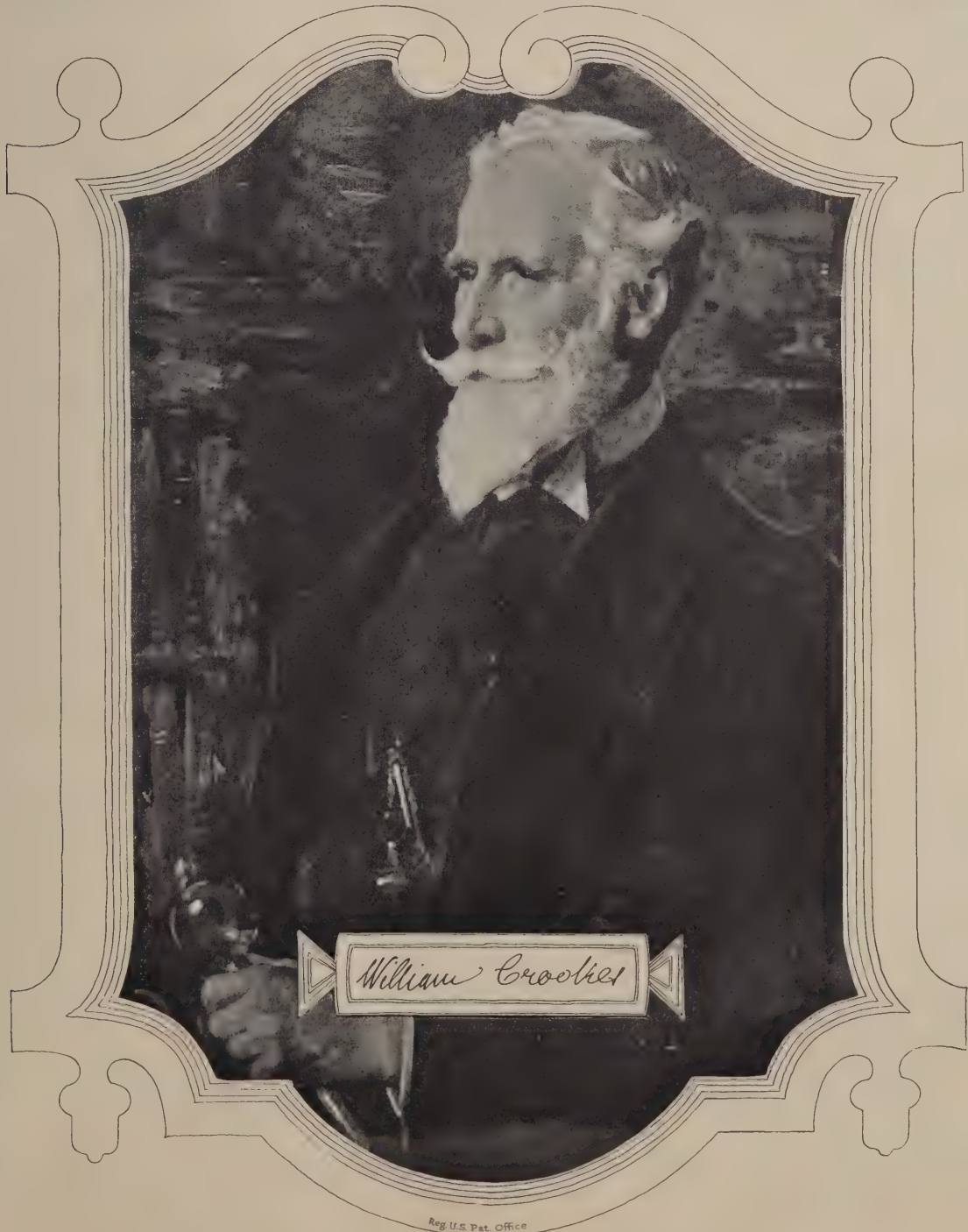
Published by the American Optical Company
at Southbridge Massachusetts

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Vol. IV

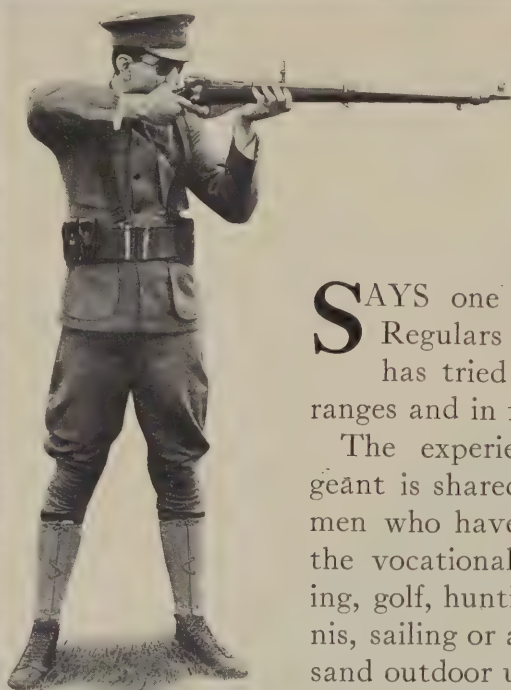
September, 1915

No. 6



Reg. U.S. Pat. Office





“NOVIOL Shooting Glasses Make Distant Objects Stand Out Brilliantly—”

SAYS one of Uncle Sam's Regulars crack shots who has tried them out on the ranges and in field service.

The experience of this sergeant is shared by those sportsmen who have found in Noviol the vocational glass for motoring, golf, hunting, shooting, tennis, sailing or any one of a thousand outdoor uses in which it is necessary to enhance distant objects or filter out the sun's glare.

For Golf and Motoring

The golf public includes extremes of youth and old age in both sexes. Those who play golf or motor can afford and want the best. In every locality, then, there is a great field for Noviol which softens down the glare, removes mist in the atmosphere and throws objective points into strong relief.

For Hunting

The coming hunting season will note the scattering of a large

army of sportsmen in search of game—big and small. Here too is a fruitful field for Noviol, the glass that directs the hunter's aim with infallible clearness.

For All Sportsmen

If your patient plays tennis, demonstrate to him the remarkable properties of this clarifying glass.

To the yachtsman, polo player—to any sportsman who needs sharp vision and relief from glare Noviol can be recommended as possessing these qualities to the highest degree yet attained.

The enterprising dealer, upon examination, will recognize these superior merits in Noviol. It will not take him long to circularize or send letters to those of his patients who pursue any of these athletic diversions, telling them he has the latest sports glass to show them.

Sound this unexplored sports field with Noviol. Then order through your jobber.





Preparation of Eye-Preserving Glass for Spectacles

By Sir William Crookes, O. M., F. R. S.

(Paper read before the Royal Society giving results of researches through which he arrived at the discovery of Crookes Glass.)

SINCE March, 1909—in connection with the Glass Workers' Cataract Committee of the Royal Society—I have been experimenting on the effect of adding various metallic oxides to the constituents of glass in order to cut off the invisible rays at the ultra-violet and the infra-red ends of the spectrum. The work has been done chiefly in my own Laboratory. I have been aided by Mr. Harry Powell, of the Whitefriars Glass Works, who prepared several pots of coloured glass from my formulæ on a much larger scale than could be made outside a Glass works. From these glasses cylinders and sheets were made.

The main object of this research was to prepare a glass which will cut off those rays from highly heated molten glass which damage the eyes of workmen, without obscuring too much light or materially affecting the colours of objects seen through the glass when fashioned into spectacles, but the work necessitated an examination of the screening properties of glass plates for ultra-violet and luminous light, and therefore the research was enlarged so as to embrace the three forms of radiation.

Radiation from Molten Glass

IN order to ascertain what rays are given off from molten glass I spent some time at the Glass Bottle Works of Messrs. Nuttall and Co., St. Helens, and took many photographs of the spectra of the radiations.

Photo-spectrographic and other examinations were made of the radiation emitted from the molten glass under working conditions.

At the time I visited Messrs. Nuttall's Works light green bottle-glass was being made; the mixture is composed of silica, sodium sulphate, and calcium carbonate or sulphate. The materials are melted in a large fire-brick tank, heated by a flaming mixture of gas and air playing on the surface. The gas is made some distance from the furnace in a "producer." Gas and air are conducted by separate channels to the upper part of the tank, where they mix and burn, the flame reverberating from the arched roof and heating the glass mixture to the requisite degree.

The Area of Great Glass Caldrons

THE area of the tank of molten glass is about 82 square yards, and it contains from 300 to 350 tons of mixture. There are several such tanks in the works. The tank is divided by a fire-clay partition into two unequal parts. At the lower part is an opening through which the melted glass can flow. The larger portion of the tank, where the materials are melted together at a high heat, has a surface of about 63 yards. This is called the "melting end"; when the mixture is well fused and homogeneous the molten glass flows through the opening into the "working end" of about 19 square yards, where the heat is less and the glass is in a viscous state. Fire-clay rings of 18 inches internal diameter and a foot deep float on the surface of the viscid glass; any scum on the surface of the tank is thereby kept from contaminating the surface of the glass inside the ring. One ring floats opposite each working opening, and the workmen withdraw the requisite quantity of glass for each operation from the inner surface of the ring.

A Seething Mass in Commotion

THE light from the melting end of the tank, viewed through a working opening, was brilliant white with a tinge of orange; it was with difficulty the unprotected eye could make out any details. Viewed through dark glasses the surface of the metal in the tank appeared as a seething mass in constant commotion. The surface in the working end was more easy to see. It was of a bright yellow incandescence, and comparatively quiet.

It is not certain what the temperatures are at each end of the tank. So far as one could judge the temperature at the melting end is about 1500°C. , and at the working end decidedly less—say, 1200° .

About each opening, especially at the melting end, thin white vapours rose and settled on the surrounding cooler parts. A piece of paper held in this vapour instantly ignited. Examined with a hand spectroscope the yellow line of sodium was seen to be brilliant in this vapour, but the light from the molten

glass showed a continuous spectrum in which the sodium line was visible. On one or two occasions a black line was seen in place of the yellow sodium line, showing a reversal. Some of the condensed vapour was collected from the cool sides of the working opening and chemically examined. It was found to consist principally of sodium and calcium sulphates, with a little sodium chloride.



The Subway to Lensdale

Photo- and Thermo-graphic Experiments

THE spectrograph used for taking photographs of the radiation from the molten glass is the one I described in Roy. Soc. Proc., vol. lxx., p. 237, May, 1899. It has two quartz prisms, each made up of two halves, one half being right- and the other half left-handed, according to Cornu's plan for neutralizing the effect of double refraction. The collimating and camera lenses and the double condensers are also of quartz cut in the same fashion. The slit jaws are made of two acute angled quartz wedges, edge to edge. The refracting prisms are of 60° angle, and each face is 35 mm. by 42 mm. The lenses are 52 mm. diameter and 350 mm. focus. The condensers are plano-cylindrical, one being double the focus of the other. In order to ascertain the exact position of any part of the spectrum I might obtain from the radiation from the molten glass, I took photographs on each plate of an alloy of equal molecular weights of zinc, cadmium, tin, and mercury. This alloy gives throughout the photographic region lines, the wave-lengths of which are well known.

The instrument sloped downwards, so as to allow the radiation from the surface of the melted glass to enter the condensers, prisms, and slit along the axis. To prevent the great heat injuring the spectrograph Mr. Nuttall allowed the opening to be bricked up, leaving a hole a few inches square in the middle. This was covered with an iron plate with a 2-inch hole in it, and over this a quartz plate was fixed.

Panchromatic Films Were Used

THESE are sensitive beyond $\lambda 7800$ in the ultra-red, and to the highest ultra-violet rays which will pass through quartz (about $\lambda 2100$). Flexible films had to be used in preference to glass, as they had to follow the curvature of the focal plane. Many preliminary experiments were made to ascertain the extent of spectrum to be recorded, its best position on the films, and the exposures needed. The slit of the instrument was generally placed about 4 feet from the molten surface, and it was found that from ten to fifteen minutes were required to produce a faint image on development. On each film, immediately before the radiation picture was taken, a photograph of the spark spectrum of the quadruple alloy was impressed on the film, in such a position that the two spectra would overlap to a very slight degree.

No. 1 photograph was taken at the working end of the tank, where the temperature was lower than at the other end. An exposure of twenty minutes was

given, the width of slit being 0.025 mm. No. 2 photograph was taken in the same conditions as No. 1, but with an exposure of forty-five minutes. No. 3 photograph was taken at the melting end, where the heat was fiercest. The width of the slit was reduced to 0.1 mm., and an exposure

of half an hour was given. No. 4 photograph, at the melting end, was exposed for one hour. No. 5 photograph, at the melting end, was exposed for two hours. No. 6 photograph, also at the melting end, was exposed for three hours. It was not found practicable to give longer exposures.

Whilst these experiments were in progress, other experiments at another opening at the hottest end were tried to see if X-rays could be detected. Sensitive films were wrapped in black paper and then in lead foil in which designs had been cut. These were exposed for varying lengths of time, as near as it was safe to put them to the radiation from the molten glass, bearing in mind that the heat might affect the films. On development, no image of the stencil designs on any of the films could be detected. These results confirm those previously obtained by Dr. Burch—that X-rays are not emitted by the highly incandescent molten glass.

Results from Photographs

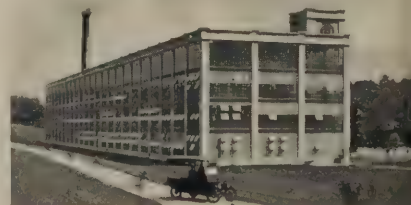
A CAREFUL examination of the six photographs shows a general progressive character, the extent of spectrum photographed extending into the ultra-violet as the length of exposure increases.

The extent of spectrum into the region of the ultra-violet is conveniently shown in the following tabular forms*:

*In connection with this table the following scale for correlating colours with wave-lengths will be useful:—

Wave-lengths 7230 and below =	Infra-red
From $\lambda 7230$ to $\lambda 6470$	= Red,
" $\lambda 6470$ " $\lambda 5850$	= Orange,
" $\lambda 5850$ " $\lambda 5750$	= Yellow,
" $\lambda 5750$ " $\lambda 4920$	= Green,
" $\lambda 4920$ " $\lambda 4550$	= Blue,
" $\lambda 4550$ " $\lambda 4240$	= Indigo,
" $\lambda 4240$ " $\lambda 3970$	= Violet,
" $\lambda 3970$ and above	= Ultra-violet.

No. 1 photograph, exposed twenty minutes, extends to $\lambda 4520$. No. 2 photograph, exposed forty-five minutes, extends to $\lambda 4320$. No. 3 photograph, exposed thirty minutes, extends to $\lambda 3790$. No. 4 photograph, exposed sixty minutes, extends to $\lambda 3640$. No. 5 photograph, exposed 120 min-



utes, extends to $\lambda 3595$. No. 6 photograph, exposed 180 minutes, extends to $\lambda 3345$.

Taking the ordinary limit of visibility to lie between $\lambda 3900$ and $\lambda 7600$, it is seen that with an exposure of three hours to the highest heats the strength of impression does not extend much into the ultra-violet. The heat rays are very strong, and if injury to the eye is caused by exposure to radiation from the molten glass, a protective glass should be opaque to the infra-red rays.

These being present in the radiation from molten glass in far greater abundance than the ultra-violet rays, the inference is that it is to the heat rays rather than to the ultra-violet rays that glass workers' cataract is to be ascribed. It is, however, certain that exposure to excess of ultra-violet light also injuriously effects the eye.

That the ultra-violet rays act on the deeper-seated portions of the eye is shown by the intense fluorescence of the crystalline lens induced by these rays.

Besides the invisible rays at each end of the spectrum, the purely luminous rays, if present in abnormal intensity, are found to damage the eye. It therefore would be an advantage if in addition the obscuring glass for the spectacles were to be of a neutral or grey tint.

Synthetic Preparation of Glasses

IT soon became evident that my best, if not only, chance of solving the problem was to make different glasses in my own Laboratory, with the addition of known quantities of pure metallic oxides and earths as colouring or absorbing materials. Lapidary apparatus for cutting, grinding, and polishing was also necessary so that the synthetically made glasses could be cut into plates—polished so as to be tested photographically in the spectrograph already described—and also tested for the percentage of heat rays they obstructed.

Many preliminary experiments were made on the preparation of a clear and colourless glass or flux to serve as a basis for the colouring with the various metallic oxides. Finally, two kinds of soda glass not containing lead were chosen, and Mr. H. Powell, of the Whitefriars Glass Works, who had assisted me in the preliminary trials by supplying me with many kinds of glass of different composition and fusibility, made a quantity of these fluxes and supplied them in a crushed condition.

In Early Mixtures

IN my earlier laboratory experiments the mixture of colouring matter and granulated flux was put into a small "gold pot" of Morgan's Crucible Co., and gradually heated over a "Meker" gas burner. It is advisable to have one at least of the colouring constituents in the form of nitrate so that its decomposition by heat shall mix and stir the constituents. The decomposition of the nitrate causes a little frothing; therefore it is necessary to add the mixture gradually to the crucible, to avoid frothing over. When all is added and the contents well fritted, the hot crucible is removed to an electric furnace and the temperature

slowly raised until the glass is quite fluid. It is stirred at frequent intervals with a stout platinum rod. After an hour the stirring is discontinued, and the temperature kept up for an hour and a half. The current is then cut off, the openings in the furnace plugged with asbestos to prevent draughts, and the whole allowed slowly to cool to anneal the glass. In some cases the composition of the glass was such that the melting-point had to be raised above 1400°C ., and as this temperature was beyond the safe limit with the platinum strip furnace, a blast-furnace fitted with a "Lennox" electric blower was used; with this arrangement larger quantities of glass could be raised with safety to a much higher temperature.

Two Conditions Aimed For in the Glass

THERE are two conditions I have endeavoured to secure of the finished glass—each of great importance. One, the most essential, is the absence of all streaks, striæ, and irregularities of density; the other, the absence of air bubbles. The first is obtained by repeated stirring and perfect admixture; the freedom from air-bubbles is secured by leaving the glass in perfect repose while the heat is at the highest point. On these and other points I have been much aided by reading an early paper by Faraday "On the Manufacture of Glass for Optical Purposes," the Bakerian Lecture read before the Royal Society in 1829 (Phil. Trans. Roy. Soc., 1830, p. 1). On a small scale it is almost impossible to avoid slight striæ owing to differences of density caused by the long-continued heat volatilizing some of the soda. Faraday was much harassed by this dilemma in the manufacture of his optical glass, and tried many experiments to ascertain the cause. To get rid of air-bubbles Faraday used spongy platinum in powder sprinkled over or added to the bulk of the melted glass. This was found to act pretty well, making the bubbles rise in the same manner as a piece of bread causes bubbles to rise when thrown into a glass of effervescing liquid. To get the full benefit from this device, however, the glass must be kept perfectly quiet and at the highest temperature for a longer time than in my case was always practicable.

When the crucible has cooled slowly for about twelve hours it is removed from the furnace, and the solid cone of glass removed by breaking the crucible by a few judicious blows with a light hammer. The lump of glass is now taken to the lapidary's table, and slit across the middle and a plate cut from it, which is ground and polished to a determined thickness, usually two millimeters. (To be Continued.)

The Onepiece or Kryptok Crookes Bifocal

IS a combination of unbeatable qualities in one lens. Add Crookes Glass to the splendid efficiency of these bifocals and you give your patient comfort for life.

The Crookes Onepiece and Kryptok Bifocals are the latest AO development in an ultra-scientific lens. Can be worn like white lenses.

Some Hooks and a Line to Catch the Holiday Trade

CHUBBY Al Hughes, sailing westward, lugged in the famous case of chain samples and opened her up on the counter. "Hi, there Prince," wheedled a voice. Al thought

mebbe 'twas the dog they were talking to and kept on opening his case, hands busy. "Hello, Prince Al, don't you read your own AMOPTICO?"

"Gawd, Jack" said Al, "that editor back home's nuts," and side stepped with a flowery talk on Christmas chains.

But when he got home here's what he said to us:

"In spite of the name you handed me I came out of the trip in good style. Found one nice little order running well into four figures and take it all in all we've got our chain line now where you can't beat it—on price, service, quality or anything. They all realize it too.

"Look at this new Christmas combination here—



A Beautiful Christmas Combination for only \$3.50

6 hairpin chains, 3 cable Ear Loop chains, 3 Wire Ear Loop chains all in one dozen individual containers for \$3.50. The average retail price of chains is \$1.00, hairpin chains \$1.25, Ear

Loop chains 75c and \$1.00, which will sell for \$12.75 for the dozen. So you see at \$3.50 they offer a splendid chance of turnover and liberal profits.

"Every chain in this combination is our best 1/10 12K quality. Each chain is enclosed in an anti-tarnish glassene envelope of attractive design, while the large container that holds the dozen boxes is beautifully covered with red and green holiday paper of holly and poinsetta designs. The individual boxes will be supplied with or without the "Greetings" label on them.

"I'm intensely pleased with this Christmas Combination—the trade will appreciate it at a glance. Jobbers will sell it for \$3.50 complete."

The Name of Our Newest Case Finish is Frostol

FROSTOL, optically speaking, is the AOCo for a cool, hot weather or Christmas thought and a new, never-wear-out case finish. The name applies directly to a flaky, snake-like scale finish on our No. 325 metal form. Its chief distinctions are beauty, wear and price.



It would seem from the description that a finish like this would scale off and have a short life. But the handsome black crystal flakes of the Frostol are made to adhere to the metal form by a new German covering process. The wearing qualities of this new finish exceed many of the most expensive leathers; as a knock-about case it cannot be excelled. The appearance of the case is that of a high priced article, when in reality it sells through your jobber at only \$12.60 per gross.

There can be no mistaking the fact that this is one of those distinctively new and beautiful moderate-priced finishes capable at the same time of standing hard knocks and wear.

Frostol is unquestionably a splendid moderate-priced proposition. Look into this new Frostol case as a Christmas trade proposition. Your jobber will have it for you in most of our regular forms.

How About Our New Lens Cleaners?

HAVE you noticed how well the new Fits-U Lens Cleaners have substantiated our claims of scientific treatment?

"Chuck full of cleaning compound, soft and beautiful of texture and clean up the neatest ever," says one enthusiast, who accepted our word in the August Amoptico for it.

You may get lens cleaners for less price; you may pay more for them than we ask, but we can assure you, after exhaustive investigation, there is no cleaner on the market today superior to the AOCo Fits-U, for we have at last found a scientific cleaning compound and a cloth of fine texture to hold it. Fits-U Cleaner for the fitting table *free* with every order of 500. No orders accepted for less than 500. Price \$7.50 per thousand.



PRACTICAL TALKS WITH THE PROFESSION



If you have any problems or questions send them along. This is Your Page.

A Few Points About Fitting

"TIME was" said a fingerpiece expert, "when a man fitting glasses had to know more than he does now about mountings. He had to make out a detailed order on every part of a mounting, specifying spring, guard, stud, strap, and all those details now thought out for him by the manufacturer."

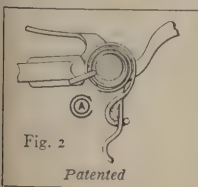


"Which reminds me," he continued, "about this matter of changing spring tension on the Ovalex or the Coil spring in fitting fingerpiece eyeglasses. Except in rare cases it should never be necessary to adjust the Ovalex or the coil spring. Let me tell you why."

"The first step in a proper fitting is to select the size bridge nearest the shape of the nose. Very simple, yet so many fail to do it and as a result get a bridge on the nose like a cat's arched back, or else the other extreme. Then they go after the spring because they think the tension's wrong."

"The second step, after getting a bridge size to conform naturally to the nose, is to adjust the guards to help the bridge bear the weight of the mounting."

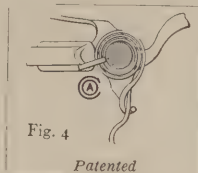
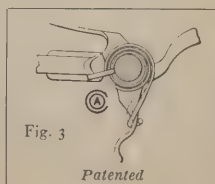
"Now adjust the AO loop, not the Ovalex. The proper adjustment of the guards is the whole secret of the proper fitting. They must close on the nose comfortably to their fullest extent, i. e., to the same distance as they'd close if there were no nose there at all."



"If the guards do not close to their fullest extent comfortably on the nose, then they are cutting into the flesh and need further adjustment. If they fit comfortably and conform to the nose so that guards and bridge bear the weight of the mounting, all that

is now necessary is to turn in the outer edge of the upper guard slightly to prevent the eyeglass tipping forward. So you see spring tension, provided the eyeglass is fitted correctly, has been taken care of by the manufacturer."

"And while I am on the subject, it is best to mention that the

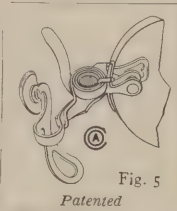


manufacturer makes Ovalex springs of varying tensions and sizes for different mountings he makes. Orders for Ovalex, consequently, should specify the mounting they're to be used on, so's to get the Ovalex with the right tension.

Distinction in Ovalex and Coil Adjustment

"There are rare cases, however, of extreme noses, some occasional defect in the spring and the like when adjustment becomes necessary. I noticed at our Sales Conference that the salesmen felt the trade had a mistaken idea about spring tension, and considered the Ovalex complicated. It is really as simple as the coil spring to adjust."

"The Ovalex adjusts by a simple twist at the guard arm end only. The coil spring adjusts by a simple push or pull at the strap end only. There you have the distinction and simplicity of it in a nutshell."



Ovalex Adjustment in Detail

With a small pair of pointed nose pliers we simply grasp the spring above the guard arm, Fig. 1, and give it a slight twist, which will have the effect of making a bend in the end of spring, which shortens the coil, Fig. 2. This makes the spring stiffer. To make the spring weaker, a reverse twist is given to the same part of the spring, which will straighten it out, Fig. 3.

It must be thoroughly understood that in adjusting the tension of the Ovalex spring no attempt should be made to bend the short end of the spring which bears against the lens strap. Any twisting or bending of this part of the spring is likely to break off the end, and could by no means have any effect on the tension. Adjustment for tension must be done as above described. The normal adjustment as the goods are received from stock is shown in Fig. 4. Figure 5 shows how end of Ovalex spring hooks around arm of guard.

While there is a general belief in the trade that the optician should be able to change the tension of springs, we believe that the spring tension has less to do with the matter of comfortable fitting than proper adjustment. So instead of changing the spring, we emphatically recommend adjustment of the guards.



The Winning Windows

THE Great \$25,000.00 Window Display and Idea Letter Contests are over! After a year of strenuous competition entered into by the thousands of dealers and wholesalers connected with the membership of the Rice Leaders of the World Association \$15,000.00 has been awarded to the prize-winning Window Displays. This photo contest which was closed on May 15 last, ran hand in hand with a \$10,000.00 Idea Letter Contest, in which contestants from all over the world participated. The number of photographs and ideas submitted for these two contests reached the surprising total of 25,000. Of these, 4000 were photographs of windows and 21,000 were letters with ideas of all sorts on the members' products.

The Window Display prizes, from the first prize of \$2000.00 down to the lowest class prizes of \$10.00, were awarded to 463 winners, who have already

received their checks and are running their winning displays again, with appropriate announcements of the Rice Association's award.

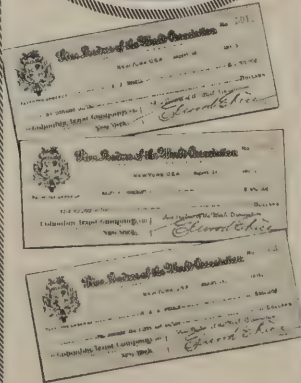
In the Idea Letter Contest approximately 600 prize winners received prizes ranging from \$1000.00, the first prize, down to numerous prizes of \$1.00 each.

The highest award in the Window Display Contest went to Thomas McBride, of Troy, New York, with a display on the Chalmers Knitting Company's products. The second prize winner was the Stambaugh-Thompson Company, of Youngstown, Ohio, which won \$1000.00, with a display of the Winchester Repeating Arms Company's goods. The Union Company, of Columbus, Ohio, with a display of the Holeproof Hosiery Company's products, won the third prize of \$500.00, while ten contestants in the next lower class received \$250.00 each for their displays.

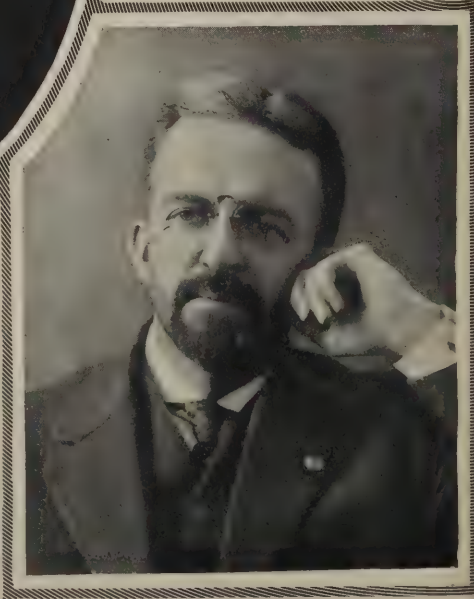
A. J. Edgell, 29 W. 39th St., New York City
Highest Prize Winner, Idea Letter Contest, \$1,000.00.



3rd, W. H. S. Pearce, Newton, Mass., \$250.00



R. W. Ashcroft, Montreal, 2nd, \$500.00





Kaufman & Baer Co., Pittsburgh. Winners Highest Optical Prize, \$100.00

G. S. Dunlap, Webster City, Iowa, \$50.00

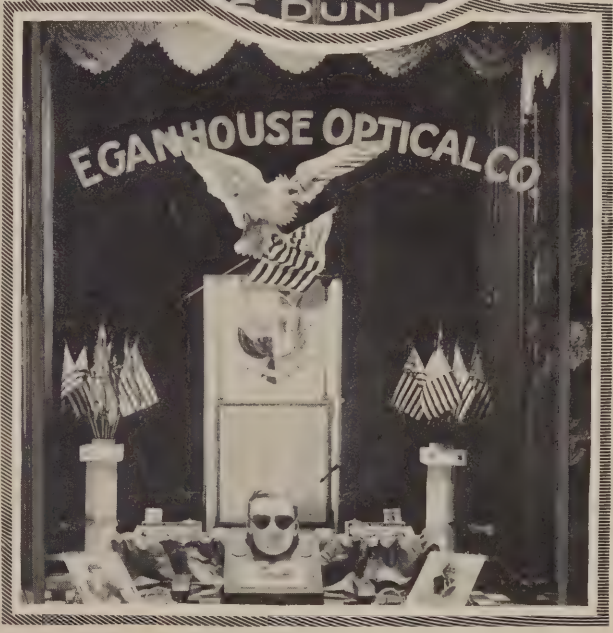


The honor of being the highest Optical window prize winner belongs to the Kaufman & Baer Co., Pittsburg, Pa., which was awarded a prize in the \$100.00 class for the display shown above.

Second among the optical prize winners showing American Optical Co.'s lines was the display of G. S. Dunlap, of Webster City, Iowa, who received \$50.00, as a reward for his display of the American Optical Company's goods. Two optical prize winners shared honors in the \$25.00 class, Denholm & McKay, of Worcester, Mass., and the Eganhouse Optical Company, of Houston, Texas, being awarded equal honors with \$25.00 each. The other nine prize winners were awarded each \$10.00 as follows: Calender McAuslan & Troup Company, Providence, R. I.; The Chinn-Beretta Optical Company, Stockton, Cal.; Harris Brothers Company, of Havana, Cuba; Harvey & Lewis, Springfield, Mass.; Paul Johnson, Davenport, Iowa; H. A. Knauber, Brooklyn, N. Y.; S. Matsushima Optical Company, Tokio, Japan; Willis A. Smith, of Melrose, Mass., and Albert W. Meserve of Kennebunk, Me.

In the Idea Letter Contest the first prize was won by E. J. Edgell, of 29 West 39th Street, New York City, who captured the grand prize of \$1000.00. Ralph W. Ashcroft, of Montreal, Canada, was second with \$500.00, and W. H. S. Pearce, of Newton, Mass., was awarded third prize of \$250.00. These three prize winners suggested the largest number of successful ideas about the products of the forty members of the Rice Association. As yet these winning ideas have not been announced, owing to the enormous amount of detail connected with the awarding of the prizes. Idea Letters were sent in from all over the world, from Alaska to the Far East. Out of the twenty-one thousand letters submitted it is expected there will be found some novel and helpful ideas for the promotion of the interests of the individual members of the Association. Over four hundred of the letters submitted in the Idea Letter Contest contained ideas relative to AOCo products and particular phases of the Optical business.

As a result of these now historic contests thousands of retail stores in the United States and foreign coun-



Winner of \$25.00 Prize

tries will soon be displaying either the American Optical Company or other members' products prominently, repeating their window displays, the names of the Idea Letter winners placed prominently in the foreground. Each contestant in these Window Display Contests will receive an album containing one hundred photographs of prize winning windows. The Committee chosen by Rice Leaders of the World Association to judge the \$25,000 contests was composed of widely known authorities:—A. E. Hurst, Manager, the "Dry Goods Economist," New York; Thomas A. Bird, Editor, "Merchants Record and Show Window," Chicago, Ill.; S. B. Van Horn, Window Advertising Counsel, New York; J. M. Hopkins, Printers Ink Publishing Co., New York; George J. Cowan, Secretary, "Dry Goods Reporter," Chicago, Ill.; John A. Manson, Editorial Dept., Hardware Dealers' Magazine, New York.

Some Thoughts on the Spirit of Thorough Workmanship

I NEVER value my job so much as when it affords me the privilege of getting out into the factory among the old timers, who've been the flesh and blood of AO progress.

For these are the chosen survivors—many still at a bench after thirty years, others now foremen and some few of them superintendents—but all master workmen who've made AO Quality a byword and a daily reality.

I know of one who heads the gold department—Lyman E. Sibley, 45 years in the service with the late G. W. Wells. Pass along through his floor and if luck is with you you may find him, otherwise it's a stern chase, for he's here, there, everywhere, inspecting. Or you may catch him, as I did, seated on a stool putting the finishing touches on a special foreign order with rapid skill and precision—always the workman.

When he takes you through his department what does he point to with greatest pride? Not its size, or



Lyman E. Sibley, Master Workman

through, checked up, carelessness or accidents noted and operator's number checked up against the individual operation.

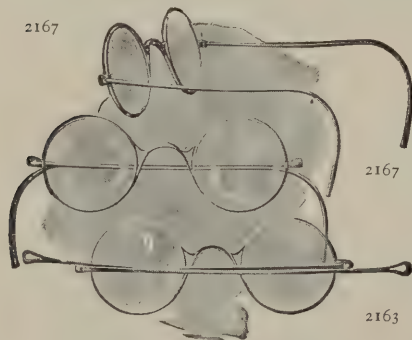
"Look at this record," said he; "if an operator breaks or mars so much as *one* little endpiece," said he proudly, "it shows here, I send it back and he knows his work is being watched. He's careful not to repeat. Nothing goes out of my department until it's correct," and he stood there as if defying me to doubt it.

Six feet two of Lyman E. Sibley represents the best traditions of a past in which pride in creative workmanship has been the daily password. The almost fanatical insistence of the old timers on perfection in workmanship and detail is now the inheritance they are leaving to the present generation, though they perhaps would not summarize it in these words.

The spirit behind these AOCo workmen is the motive force of our gold department. It may not be visible, but it has left its indelible *Quality* impress on every AOCo product. The religion of thorough workmanship can truly be said to have put the American Optical Co. where it is today. To foster and maintain this spirit has been one of the real AOCo traditions.

The AOCo solid gold line for Christmas and Thanksgiving trade is the line your jobber carries. Ask him to show it to you.

2167



Popular Solid Gold Spectacles

its equipment or the number of employees but the *carefulness of its workmanship*. He showed me his system of keeping track of orders—how every part, from temple to bridge, was followed

Let Us Help Make Your Shop Stand Out in Your Town

WE ONCE showed a picture of a crowd rushing into an optician's shop. Far be it from us now to say it never happened. Other people have weaknesses like ourselves and creditors rush in where angels fear to tread.

So we showed another picture last month. A beautiful picture of a new steel sign—No. 5W22. This picture was marked "Free" and the whole indebted trade rushed in on us.

For this service we have the engrossed thanks not only of the heads downstairs and our trade brothers in optics but the Loyal Order of Carpenters. We are giving the unemployed work.

So send in your order for a Fits-U steel sign, have your carpenter hang out your

shingle in a nice conspicuous place over the sidewalk and make your shop a Fits-U headquarters.

The "Fits-U Optical Shop" sign is lettered on both sides in handsome red and black enamel. It measures 9" x 11" with set of screws enclosed with which to fasten the flange to your store.

The stores that are making great successes in other lines have identified themselves with some nationally advertised product. Why not let your store be known in your locality as the headquarters of Fits-U Optical goods? Send for this free shingle—No. 5W22—and hang it out. Let us help you to a reputation as the most up-to-date dealer in Quality goods in your town.



The Colmascope Catches the Strained or Defective Lens

THE ever-increasing demand for rimless spectacles and eyeglasses in preference to the rimmed types has been one of the most sweeping changes that have taken place in the optical trade during the past decade. The unquestionably superior appearance of frameless goods has been largely responsible for this. On account of the extremely fragile nature of the rimless construction, however, there has always been, and there always will be, a demand for spectacles and eyeglass frames.

Perhaps ninety-five per cent of rimless lens breakage occurs at the point of contact between the unyielding metal and the brittle glass, a considerable part of which might be properly laid to causes which are now entirely within the control of the optician, particularly the use of improperly annealed lens blanks. By this we mean the use of lens blanks which, after being moulded for grinding, have not been cooled slowly enough, resulting in setting up a molecular stress, making the glass extremely brittle and, although the defect

is indiscernible to the naked eye even in the finished lens, it nevertheless effects the light transmitting properties of the lens to an appreciable extent. A somewhat similar stress or strain is produced in mounting rimless goods by driving the glass screws too tight or by binding of the straps, caused by not accurately



Strain revealed by Colmascope

locating the screw hole in drilling the lens or by carelessness.

As stated above, such strain may exist in lenses or lens blanks without the knowledge of the optician and will cause extreme annoyance and serious losses due to breakage, which might be avoided by the use of a new type of scientific optical instrument known as the Colmascope.

The Colmascope, by virtue of a practical application of certain known laws of light, will give to the observer an exact knowledge of the strain or absence of strain in any lens under observation. Take, for instance, the average rimless job you deliver. Frequently such a job is sent by mail and received by the customer broken, notwithstanding careful packing and having been apparently in perfect condition when mailed. The annoyance and the loss which in practically every instance is suffered by the consignor represents a considerable item in the year's business.

The drilling and mounting of lenses is at best a delicate work requiring great mechanical skill to properly perform. Constant effort is made to avoid drilling too large a hole or too near the edge of the lens, as otherwise a gap will be left which will make a loose wobbly job and become a constant source of trouble to the wearer and the optician. So the operator is apt to fit his rimless work too tight and to leave the lens under a strong tension at the edge of the strap arms and at the screw hole, perhaps straining the lens almost to the point of breaking.

Only of recent means of testing ready to wear. the Colma- and so effective- invaluable- ticians.



AOCO Colmascope (Patented)

a tightly driven screw or physically by defective annealing.

The instrument is well shown in the accompanying picture. To operate, the self-illuminating attachment in the base is controlled by the small button switch in the rear of telescope. The electric wire may be attached to the nearest light socket. The lens to be tested is held within the opening and viewed through the eyepiece. If the lens under observation is free from strain the entire substance of the lens will have the same appearance; if, however, the lens is cramped or strained streaks of light will be seen to proceed from the point of strain in all directions. The greater the strain the more pronounced will be the effect described. Considerable strain will cause these light streaks to show spectrum colors. In many cases the strain on mounted lenses can be relieved by a quarter turn of the glass screw, but sometimes it is necessary to re-broach the lens hole to ease up the cramped condition.

When a lens blank is strained from insufficient or improper annealing the defect may show up as a dark cloud or a colored cloud in some part of the blank or by dark or light streaks which sometimes resemble cracks when viewed through a Colmascope. Such blanks will frequently break in surface grinding or when finished in mounting, and are not safe to use.

In the accompanying illustration we show a Colmagraph of an actual test on a lens clearly marking the defect which could be seen in no other way. Some of the Colmascopic effects in strained glass are very beautiful.



Colmagraphic view of lens blank, showing physical strain due to imperfect annealing

The Colmascope is wonderfully effective as a money saver and its cost is so reasonable as to bring it well within reach of those who might only have occasional use for such an instrument. It is handsomely constructed in oak or mahogany and its appearance would enhance the furnishings of any store or office. For the oculist or optometrist who wishes to make a careful check on all prescription work a Colmascope is an invaluable aid. The instrument can be purchased from any representative jobber.



Live Selling Helps

Amoptimisms

SOME people have tried advertising and found it didn't pay. But that proves nothing. Some people have tried the optical business and found it didn't pay.

* * *

What's the use of leading in merit if you lag behind in advertising that merit?

* * *

There are many ways of reaching out for trade—window cards, circulars, newspaper ads and moving picture slides. Use them all. To use but one to the exclusion of all others is like picking apples one at a time instead of shaking the tree.

* * *

A window without a window card is like a salesman who is dumb. Do not leave your window speechless.

* * *

Advertising is salesmanship multiplied. You can talk to but one prospective customer at a time. Your advertising talks to the multitude.

* * *

It isn't the people who pass your place of business who make your business possible. It's the people who come in. An inviting window singles customers out of the crowd.



Window Displays

OUR Toric Lens and Schoolboy window displays are two of the most forceful aids to increased profits yet devised. The Toric Lens display costs \$1.50 ready to set up. The Schoolboy for \$1.50 shows a striking series of photo cards. On page 117 of this issue is shown how a strikingly simple and effective window can be produced with our free helps.

The Kind of Business You Get Is the Kind You Go After

IF YOUR advertising, your window displays and all your selling efforts are concentrated on low prices and bargain sales, you may be sure that yours will be cheap, cut-price business.

If, on the other hand, your advertising talks quality rather than price, and your windows back up the story, you will naturally attract to your store customers who are more interested in high-grade goods and skilled professional service than in bargain prices.

No sensible optical dealer will have much doubt as to which is the more satisfactory and profitable class of business, yet many opticians and optometrists find it difficult to put this desirable quality appeal into all their advertising and selling efforts.

Now AOC_o advertising and selling helps are planned and designed to fill this need in the most satisfactory possible way. They always talk quality rather than price, and they talk it in a way that convinces the people who have money to spend and are willing to spend it for the right quality of goods. AOC_o advertising helps are invariably attractive in appearance. They reflect the high professional standing of the skilled optician or optometrist who uses and sells the best class of optical goods. And not the least advantage of these AOC_o advertising helps is the fact that AOC_o goods may be depended upon always to deliver the quality advertised.

In the following pages we tell about a few AOC_o advertising and selling helps. There are a great many more for a great many other purposes. If you will tell us what particular line of goods you want to push, we will gladly tell you what suitable advertising helps we can furnish you.

Write us today, and start after quality business with quality advertising.



An Advertising Thought for September

A spur does not give a horse more speed. It merely induces him to use all the speed he has.

Advertising does not create buying power. It merely takes full advantage of all that exists.

For AOC Co Dealers



48K. Copy No. 1.

This is where your Glasses usually break

—and it is quite natural to expect that when you tighten a fragile glass lens with a metal screw between unyielding metal straps you invite *danger*—and are apt to reap *disaster*.

We have a new system of mounting lenses without the use of screws. There is no pressure on the lens at all. The KeeLock saves expense and annoyance besides being better looking. Come in and examine a sample pair.

(FIRM NAME HERE)

Print this copy and cut on (Date).....

49K. Copy No. 2.



Do You Notice Something Very Neat About These Glasses?

The absence of screws and the use instead of little beveled straps gives a touch of distinction and class in either eyeglasses or spectacles.

Good appearance is only one of the great advantages of KeeLock mountings. The lenses are *cemented* in. They can't come out, loosen or crack as they do when metal screws are used.

It won't take long to explain the KeeLock to you and show samples. You'll be very much pleased.

(FIRM NAME HERE)

Print this copy and cut on (Date).....

51K. Copy No. 4.

These arms straighten out and your lenses loosen



Old style



KeeLock

This is a common fault of most rimless glasses. And it is positively harmful to the eyesight besides being annoying and dangerous. That trouble absolutely cannot happen with the new KeeLock. Lenses are cemented in solidly without pressure and they never loosen. You can hardly appreciate the handsome appearance of KeeLock mountings unless you see them. We will demonstrate if you will call.

(FIRM NAME HERE)

Print this copy and cut on (Date).....

2M2

Three Bids for KeeLock Business

THE KeeLock is a new thing. Like all new ideas it must be exploited. In no other way can a story be so quickly told to a whole community as through the local newspaper. Everybody reads the local paper because everybody wants to know the news. There is no news more interesting to eyeglass wearers than the story of this new KeeLock Mounting. It is told in three chapters in the three newspaper advertisements shown above. Run these in your local paper over your firm name. The KeeLock is the most important improvement in eyeglass and spectacle construction that has been developed in a century. Spread the news and let people know that your establishment is headquarters for everything that is modern and practical. We gladly furnish free electrotypes of these three advertisements to all opticians and optometrists who will use them. Order by number today while the spirit moves you. The three newspaper advertisements above, run for one week each with change of copy in the local paper will repay the small cost for the space.

At the present time optometrists and opticians are taking full advantage of this radical KeeLock invention to let their customers know they are modern and up-to-date advertisers with the latest thing out.

Try This

AN enterprising optometrist who never permits his customers to forget him sends out each month what seems to be a bill to every name on his books. To those who owe him money the regular bill goes but to those who do not he sends his bill head on which is typewritten:

*You do not owe me a cent. Why
don't you?
Your credit is good.*



Live Selling Helps

Reach the Parents of School Children

It is more than a good business move. It is a Duty

YOU owe it to the community you serve to preach the gospel of perfect vision—to point out to those who do not know the danger of neglected eyesight.

(A Sample Newspaper Ad)



Your Children's Eyes

Are they defective? Don't guess. It is most important for you to know. Defective eyesight in school children often goes on for years undetected. It means backwardness in their studies and ill health.

Glasses worn when needed may make them unnecessary later on. We make a specialty of examining children's eyes. If glasses are not necessary we gladly tell you so.

(Optician's Name)



Run this Advertisement in your Local Paper

In no field is the neglect so evident as among school children. Investigation has proved that among school children one out of every four has defective eyesight. The children do not realize this defectiveness, the parents do not know it and the teachers are likewise unaware of such conditions. Parents worrying over the seeming mental deficiency of their boys and girls

should be told that this seeming mental deficiency is in all probability physical deficiency due to defective eyesight.

Instances where glasses have transformed children from the lowest ranks of backwardness to the leaders of their classes are numerous. It is clearly the duty of men who know these things to spread the information. Advertising along this line would be most welcome to all parents and all others interested in the welfare and education of the young.

We submit herewith a newspaper advertisement which will surely be read with interest in every home.



*Send This Circular No. 5F3 Through
The Mail to Parents*

Send for the cuts and have the newspaper set up the copy. If you wish other copy for other insertions we will gladly furnish it.

We also show a circular for distribution through the mail and in the store. It contains information on the subject of children's eyes that will make every parent stop and think. It is printed in two colors and will be supplied in such quantities as you can advantageously use with your firm name and address imprinted on the last page.

Send also for circular No. 5F7 which tells how to make Schoolboy week profitable and increase your business through the parents of school children. Start your schoolboy campaign now.

For AOC Co Dealers



Introducing the
KeeLock
*The mounting that
eliminates 7/10 of all
eyeglass breakage.*

Circular No. 2F5

Make Your Postage Pay Its Way

EVERY time you send out a bill or a statement and do not include a circular or leaflet featuring some article you have to sell or some service you have to offer, you are missing a sales-promoting opportunity.

It costs you two cents to send a bill. It costs no more to enclose a bit of advertising. Bills go to customers. Customers can be made better customers by a little cultivation.

People do not resent advertising reminders of this kind. They appreciate being remembered.

We show elsewhere in this department a series of newspaper ads on the KeeLock Mounting. We show here a small reproduction of a circular on the same subject. This circular is printed in orange and black. The illustrations explain the KeeLock construction. The copy tells the story in a complete and interesting way to your patients.

It is an attractive and convincing bit of advertising matter and will command attention wherever it goes.

Back up your KeeLock newspaper advertising with this circular. Make that 2-cent stamp that carries your bills and statements do its full work. Also have a supply of these circulars on hand to pass out over the counter. We will supply you with a liberal supply with your name and address printed on them free and in larger quantities at a slight charge per thousand.

How the Movies Create Business

DR. J. Norman Risley of Philadelphia, writing in *The Medical Times* on the effect of moving pictures on the eyes says:

"The influences of the motion picture often work for the individual welfare since, in many instances, the existence of an optical defect is unknown until subjected to strain in viewing these projected images."

If the motion picture houses serve to bring home to their patrons the need of optical attention, then surely the picture houses offer unusual advantages for bringing home the place where such optical attention can be secured. This opinion of Dr. Risley would seem to bear out the truth of an advertising slide which we recently prepared for opticians and optometrists and which proved eminently successful. It read:

*If the pictures hurt your
eyes it's your eyes—not
the pictures.*

Have you used the slide? If not, let us send it to you. We have many other business-getting slides which we gladly furnish free on request. The moving pictures play to larger audiences than any other form of amusement. You cannot reach so many people in such a timely way at so low a cost, by any other plan. Thousands of these slides have been furnished by us free to dealers in the past year. Let your patients see their eye troubles on the screen with their own eyes. Our slides tell them where to find your shop. Write for samples of slides now available.

What the World Thinks About Sir William Crookes

AS IF to bring Crookes lenses into closer touch with the name they bear, the press of England and the United States has lately united in paying its respects to Sir William Crookes on the occasion of his eighty-third birthday, June 18, 1915. Also for his appointment to the British Naval Advisory Board.

CROOKES, AT 83, FEELS LIKE 35.

Special Cable to THE NEW YORK TIMES.

LONDON, July 2.—The Daily Chronicle prints an interview with Sir William Crookes by Harold Begbie, wherein the eminent scientist gave his views on the war and sundry subjects.

Mr. Begbie, referring to Sir William's wonderful vigor and intellectuality at the age of 83, says Sir William told him he was conscious in himself of no change of faculty during the last thirty or forty years. He can work as hard, see as well, hear as well, bear fatigue as well, and is just as interested in life now as he was then. Indeed, he is inclined to doubt whether he was aware in himself of any physical inhibition for more years than this.

"I feel," he said, "very much as I felt when 35 years old."

Begbie adds: "We were speaking of eyesight and he showed me a miniature dictionary, the pages of which were, perhaps, the breadth of a six-pence. I could distinguish not a single letter, not even the capitals at the top of the page. I put on glasses, but the words were still a mist of minute grey. Sir William gave me a magnifying glass and I could then just spell the words, but he took this tiny book out of my hands and without glasses read aloud and quite quickly three or four words, with their definitions in much smaller type."

"It looks as if it will be a long v but the longer it lasts the stronger he

Some of these eulogies are reproduced here; lack of space would not allow all of them.

Old Men Are Picked Men

IN Europe, Miss Addams says, it is an old man's war. In this country one notices among persons audible on the war-side of matters:

President Eliot, 81.

George F. Edmunds, 87.

Joseph H. Choate, 83.

Andrew D. White, 82.

Lyman Abbott, 79.

After all, the old men are picked men. They have survived, as a rule, because they have combined the most strength with the most sense. In England behold (Lord) James Bryce, 77; **Sir William Crookes, 83**; Lord Brassey, 78. It seems to be that a thoroughly live man is liable to remain alive until he dies.—From "Life."

But once again we note that appreciation of great services to humanity can never be limited by racial differences or international boundaries.

This eminent chemist and physicist who perfected the Crookes tubes through which Roentgen was able to discover the X-rays; who has discovered monium and thallium, invented the spintharoscope and contributed a number of other scientific discoveries, is now honored because he has worked unselfishly thro' research for the betterment of human conditions.

It is worthy of note that no mention has yet been made in these press reports of his latest valuable contribution to human eyesight—the Crookes lens. And yet from our foreign and domestic correspondence, verbally expressed appreciation and indirect hearsay, we note that evidence is pointing toward the Crookes lens as the successor of white glass, which is only another instance, it may be said, where a great development is slow of recognition by its own generation, or obscured by the highly advertised importance of greater events or things of lesser merit.

With unvarying success the optical profession has tried out the new tinted lens and found it successful.

Discounting those cases of imagination whose testimonials describe Crookes glass as the Elixir of Life we may judge from the opinions of the efficient majority that the lens has fulfilled the claims for it and is invariably successful.

The Crookes lens will, therefore, be ranked by the scientific and popular press of the future along with the other great discoveries of Sir William Crookes. Its appearance is too recent to have brought the public, or even the optical profession to a realization of its properties. But the demand is widening so rapidly as to cause the great glass makers, Chance Bros. & Co.—harassed by the war demands of the British government—to wish we had not launched it till after the war, when they could meet it with increased production. A new supply of the light A shade has just reached the factory, and they assure us our demand will be supplied in any event.

The Crookes lens can be prescribed in Onepiece or Kryptok bifocals or any lens form. It is made of crown glass and covers all the uses of the white lens with the additional merits of cutting out harmful rays.

NAVY INVENTION BOARD NAMED FOR ENGLAND

**Crookes, Lodge and Parsons
Among the Eminent Men Who
Will Advise Fisher.**

(SPECIAL CABLE TO THE N. Y. TIMES)

LONDON, July 18.—A number of eminent scientists and inventors have been appointed to assist Admiral Lord Fisher, who was recently selected as Chairman of the Invention Board, the duties of which will be to co-ordinate and encourage scientific work in relation to the requirements of the navy.

Sir William Crookes, who is 83 years old, is one of the most distinguished of English scientists. He is a past President of the Chemical Society, of the Institution of Electrical Engineers, of the Society of Chemical Industry, and many other scientific bodies. He is famous as the discoverer of the solenocyanides, of the element thallium, and for various advances in the application of electricity. In an interview cabled to THE NEW YORK TIMES on July 3, he said:

"A great thing for men to convince themselves of is that the war will be won, not by fury of attack and not by gallantry, but simply by hanging on. He who hangs on the longest will win."

Sir Oliver Joseph Lodge, President of the British Association and other scientific bodies, is known most widely ntry for his development of J. W. elec- ded

There is no place where it cannot be prescribed with safety, so that the oculist or optometrist need never stop to consider when *not* to use it. It is the all-around, *invisible* tinted lens with the promise of a great reputation behind it. Ask your jobber to show it to you.

Send for our booklet 10F7.

Amoptico

Reg. in U. S. Pat. Off.

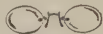
Vol. IV September, 1915 No. 6

Published Monthly by
American Optical Company
1833-1915Channing M. Wells Albert B. Wells
President TreasurerJ. Cheney Wells
Vice-President and SecretaryGeneral Offices and Works
Southbridge, Massachusetts, U. S. A.New York 15 Maiden Lane
Chicago 5 S. Wabash Avenue
San Francisco 140 Geary StreetEuropean Agency,
American Optical Company, Limited
39 Hatton Garden, London, E C
Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.Copyright, 1915, by American Optical Co.
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My Job and Your Job

MY job, oddly enough, is
the same as yours—to
sell goods.You sell direct to the consumer
—your touch with him is personal,
intimate. We sell to you indirectly
—our touch with you is through
AMOPTICO and the written word.
Identical the aims, though the
methods of attaining them differ.When you have new goods to
sell a subtle suggestion over the
fitting table—a spoken word—en-
gages the patient's interest. When
we wish to sell, AMOPTICO is our
counter and type our mode of sug-
gestion.But behind our mutual efforts
lies the real selling force that makes
or breaks the sale—*Personality*.Our efforts have long been di-
rected toward giving AMOPTICO
a distinctive personality—an at-
tractive outward appearance and
an inward character in keeping.
We have aimed it to deal fair and
square with the trade without mis-
representation. We have put into
it humor and human intereststories to get away from the dull-
ness of business routine and make
it readable, interesting and in-
structive.And we are enthusiastic about
our job, for we note the growing
friendliness of our readers as
AMOPTICO takes hold and impresses
them with its serviceableness. We
welcome suggestions about Our
Job and stand ready to help you
with Your Job at all times. How
about it? Is it a go?

Sell Merchandise Not Service

ALMOST every retail optical business
success is directly traceable to
the advertising of merchandise rather
than service. The public today is
looking for something definite, an improve-
ment in style, design, construction or
action. That is why the fingerpiece eye-
glass has had such a marvelous sale.
Service is taken for granted; it is the char-
acter of the merchandise that is the primary
consideration.The dealer who wins is the man who
periodically and persistently offers some
definite improvement or specialty in
glasses, and hammers away at that article
in his advertising long enough to make adistinct impression on his public. This has
been proved again and again. The result-
ant success will be the more notable from
the simple fact that *so very few* in the Opti-
cal business understand or appreciate this
fundamental truth. The great majority of
those in the optical business today, if they
advertise at all, try to promote their busi-
ness along the lines of professional skill and
service. On the other hand, hardly one of
the conspicuous business successes can be
investigated without discovering the fact
that an appreciation of the truth of this
idea of merchandise first, service second,
had its expression in the advertising of
some special guard, lens or mounting.Sometimes this has to be brought home
to a dealer through the activity of some
competitor. That makes the pulling all
the harder and the results much slower in
coming. If you believe this theory, and
there are many examples to prove its
soundness, try it. Adopt a definite form
of lens or mounting. Plan to put it over
with a steady, consistent campaign of local
advertising. Stick to the plan and see it
through.Select Crookes Glass, or KeeLocK
Mountings, or Flag Line, whichever special
item appeals to you and hammer away at
it. If you have the nerve and the courage
to see it through you can put your business
on the map. Emphasize service, but not at
the expense of your goods. You can be the
leader in your city or town. Why not take
this proposition to heart and try it?7, Kensington Park Gardens.
London.W.

June 23, 1915.

C. M. Wells, Esq.,
American Optical Company,
Southbridge, Mass.,
U. S. A.

Dear Sir,

Your very kind letter of congratulation
on the 83rd anniversary of my birth arrived
in due time, and I thank you much for it
and for the kind way in which you speak of
my services to Spectacle Wearers.In reply to your request I have much
pleasure in enclosing a good up-to-date
photograph of myself, and am,

Very truly yours,

William Crookes

Two Recent Visitors. One of Them You've Known for Years!

OUR acquaintance with Rodney Pierce and son, George H. Pierce, of Pittsburgh consisted of a blistering day, a one-mile-lug of a heavy camera, one short story "long" on years, and a brief personal reminiscence of his sonless trip to the AOCo in 1873 — on the occasion of his last visit.

But in those brief ten minutes there was fixed the vivid impression that a bluff, genial personality always leaves on those who come in contact with it. Shrewd, forceful, but with a spirit that never grows old.

Things moved, hot as it was! We moved our dynamic personalities around the corner, let the grass grow under their feet, and while Pease, the official photographer, adjusted his diaphragm, Bugbee, Hill, and young Pierce heard the elder tell "the" one short story. In due course we all laughed, as manufacturers will do when customers are around, for the joke was a "rara avis." The Mona Lisa smiles above have their origin in this joke.

Later, Pease, who traces his memory back to the New England Indians, told me "sub rosa" he'd heard Mr. Pierce spring that same joke in Julius King's twenty years ago. But inasmuch as he spoiled a



Geo. H. Pierce and Rodney Pierce

good plate and ripped his focussing cloth over it, it must have been a good one. We are saving it as an inducement to visitors.

Mr. Rodney Pierce is one of the old timers, formerly associated with some of the great optical houses, but for years now a wholesaler in Pittsburgh. His house is known particularly as a stickler for quality, upon which it has built up a wide reputation.

The trip from Pittsburgh was made with family and friends through Southbridge by automobile as part of a vacation tour. Let him describe it himself:

"Gentlemen:—We all arrived home safely and well on schedule time Saturday, August the 7th, at 2 P. M., and take the first opportunity to thank you all for the great time you showed us while at your great plant and city.

"The pictures reached this office Saturday. The mighty Hill with Bugbee who forced the Pierces to the corner on the grass at Lensdale where we stood erect and faced the East to be shot at without flinching. Great optical heroes are we and we are thankful to the man with the gun that our lives were spared, so that we can often recall the great affair to our many friends who call on us.—RODNEY PIERCE."

Another Way of Looking at KeeLock

A PROMINENT New England optician was in the office one day in the early spring and stopped off to chat. Inevitably the talk led around to cemented mountings for we were interested in this big development.

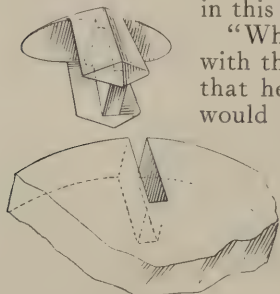
"What's been your experience with them?" we asked. He replied that he had never found one that would hold, was not sure they'd been perfected as yet, etc., etc., etc.

But then he added, "If I could find one that would do the work I'd try it. In the last year I'll bet I've spent \$300.00 of one of my men's time tightening loose

screws for my customers. You can see where that puts me."

The KeeLock at that time was just appearing on the market. We asked him to let us demonstrate it, which we did to his perfect satisfaction. He placed a small trial order and today is an ardent KeeLock enthusiast.

There is no question now in the trade's mind, we think, about the cement mounting having come to



KeeLock, Pat. July 16, 1912
Other Pats. Pend.

stay. The forward-looking dealer who has investigated KeeLock on its merits has adopted it. It holds well, looks well, is fitted easily and is beautifully inconspicuous. It saves lenses and when properly cemented cannot be pulled out. Do not let a big proposition like this get by you. In the meantime lay in a trial order with your jobber for fall business.

A Crowd of Our Case Department Picnickers

BETWEEN Jim Paige's Lensdale foremen and Arthur J. Pratt's Case department family, the old AOCo has become the happy hunting ground for picnickers.

A special train, completely armored and equipped with 200 fair case makers and male attaches slid noisily out of Southbridge en route for Providence and a big shore dinner, August 14.

There was music galore by A. J. Martel's special AO quality case department Japtol band until the clam chowders began to get in their heavy work.



Getting Away to an Early Start from the Southbridge Terminal



NOTE: This is the fifth of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff will endeavor to make these articles simple, and interesting to everybody from month to month.

The Invisible Spectrum

(Continued)

WE propose in this article to discuss the ways and means of preventing ultra-violet rays entering the eye, they having been shown in our last article to be highly undesirable and pernicious.

Fortunately there are at our disposal numerous chemical compounds that possess the property of absorbing the ultra-violet, allowing it to excite the molecules of the absorbent to give off heat or light.

We have mentioned previously that anthracene and numerous other organic substances had the power of transforming the short ultra-violet waves to longer, visible ones, but obviously if we are going to put something in front of our eyes to absorb ultra-violet, that something must be transparent and permanent, which most solid organic compounds are not.

The most commercially feasible way, then, of attacking this problem is to use glass itself as a basis and add something to the glass that will be effective.

Now, it has been found again that the best way to accomplish this is to treat the molten glass with the desired chemical, merely by making the required additions in the pot.

Organic substances, being volatile at the temperature of glass melting, are at once eliminated from the discussion.

On the other hand there are well-nigh innumerable inorganic substances that are perfectly stable and capable of being incorporated successfully in the glass. The metallic oxides—i. e. those formed by the chemical union of oxygen with the metals—are mostly powders, easy to obtain; for instance, one of the oxides of iron is the well known Rouge, and the green tinge of cheap commercial glasses is due to the fact that small quantities of an iron oxide

are always present as an impurity in the raw materials from which such glass is manufactured.

On considering the spectrum a little it would seem that unless these ultra-violet rays are quite different from the visible portion, anything which refused to let the violet pass through would also probably prevent the transmission of the ultra-violet.

This is found by experience to be true in most cases, but by no means an invariable rule.

Therefore, if we put something in our glass which colours it red, it means that the red only will get through and the others will be shut off.

However, red is not by any means pleasant or desirable to look through for any length of time, consequently we are impelled to try somewhat less extreme measures.

Let us make our glass yellow, and then we find in most cases that the yellow will let through the red, yellow, green and, according to the depth or density of the yellow, it may or may not let through some blue and violet. Usually a yellow glass will cut out the ultra-violet and violet, although the author has noted remarkable exceptions.

These exceptions are particularly noticeable in the so-called amber glasses which are often of an orange tint and may be classed here under yellow glasses. In quite dark shades they have been observed to practically eliminate the violet and most of the blue and yet let through some of the ultra-violet. On the other hand, a brown amber is usually very effective in absorbing both violet and ultra-violet.

Best of all the yellow glasses, however, is the new Noviol which, according to its depth of color, will respectively cut out ultra-violet, violet and blue while letting through red, yellow and green.

Again it may be argued that a

yellow glass will distort color values too much and hence prove trying to the eye, although judging by the popularity of these glasses such does not seem to be the case.

However, continuing our journey through the spectrum we next come to green; these glasses enjoy considerable popularity, being made yellowish-green.

Paros—a new glass—is the best and most typical member of this class; it will entirely cut out all the ultra-violet and violet and some blue and diminish the red, yellow and green very slightly, although this lessening of the brilliancy of the red, yellow and green is often an advantage as there is such a thing as having too much light.

Passing on next to the true greens. These are not nearly so effective as those preceding, except in such a dark shade as to seriously impede vision.

Next we come to greenish blue, but these, as may be expected, begin to cut out red and yellow and let through more and more ultra-violet, although some of them can be rendered fairly effective.

Blue glasses, the next on our list, are very poor absorbers of ultra-violet, their main action being on the yellow.

Violet glasses, as may be expected, are least effective in cutting out ultra-violet, and their principal use seems confined to the sciences and ornamental windows.

Thus, we have run through the spectrum, and found that certain of its colors incorporated in a glass give us useful results, particularly in a glass such as Noviol.

However, there are certain shades or tints or combinations of colors not seen in the spectrum that we have yet to consider, and these, including a discussion of the epoch-making researches of Sir William Crookes can be taken up in a subsequent article.—H. T. R.

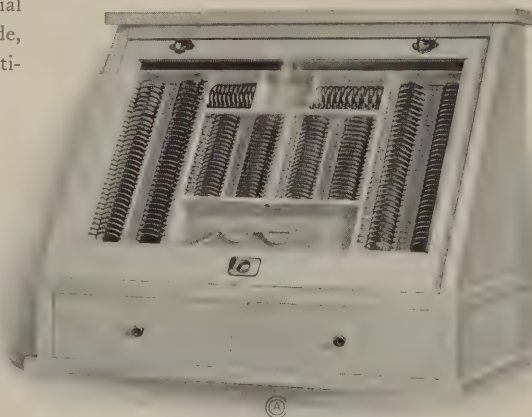
The New White Enamel Finish Popular With the Profession

THIS is the new white enamel trial set case long wanted by the trade, and popular because of its beautiful and sanitary appearance.

The white enamel trial case and white enamel in general has long been recognized as a valuable addition to the office equipment of the professional man.

The whole tendency of this scientific age is to develop those instruments and accessories that combat disease. The discovery some years ago that germs breed in darkness has popularized and made necessary the use of ivory white instruments: Their psychological effect on the patient is obvious to you from your everyday personal experience. There is nothing quite so pleasing to the eye.

On special orders we have been making these white enamel trial



The New White Enamel (No. 02211) Set.

sets for some years. But we are now ready to supply the white enamel finish regularly on all of our trial sets, in addition to our oak and mahogany finishes, at a slight additional cost.

The particular set shown here in white enamel is our No. 02211 with contents "B" consisting of 32 pairs each of concave and convex sphericals; 20 pairs each concave and convex cylinders; 5 pairs of prisms; 10 Discs and Colored glasses; trial frames, No. 2387 Wells temple and No. 2220, and one set of test types.

This entire set in oak comes complete at \$66.50 and in white

enamel at \$74.00. Ask for quotations from your jobber on all our white enamel sets in roll fronts, glass fronts or regular office styles.

Another Busy AO Personality

FOR the past eight years there has been scarcely a visitor under the AO roof whose comfort or convenience has not been ministered to by Charles I. King.

It matters not whether a postage stamp or a reservation for Siberia is wanted, "Charlie" King is the man who produces them all with the minimum of quiet, efficient courtesy. For Charlie is the silent worker who watches over the needs of our guests.

In addition to his many and varied duties, he is sort of an executive private secretary, who handles the business and personal affairs of the executive officers, oversees requisitions for departmental supplies and tackles all incoming mail.

He sees that the daily mails are distributed to their proper departments by his assistants, supervises the collection of outgoing mails and probably is more familiar with the names and history of the thousands of miscellaneous firms and individuals doing business with the AOCO than anyone in the entire organization.

And yet, whether it be visitor or office boy he never fails to find time to do those unassuming little favors characteristic of such rare dispositions. We know of none finer.



Charles I. King.

When you come again watch for "Charlie" King at the desk by the executive offices. You'll know him by the A shade Crookes lenses he wears here. We hate to make "Charlie" over into an ad, but these Crookes lenses show up like white glass so clearly, just as the camera caught them, that we couldn't resist the temptation. Somebody says the Crookes lenses make this look like a Rogues' Gallery photo, but the original is handsome, my friends.



Dress Up Your Store For Fall Trade

HERE'S a new photo of the Glad Hand that's making the optical world shake with its important self.

The Model Man with the Glad Hand is becoming the rage with those stores that pride themselves on the latest in novel and useful display fixtures. When we guarantee safe delivery of a nicely tinted flesh-colored hand, with a set of snappy green and white cards for only \$1.50 what should prevent you from sending in your order now for immediate delivery? Over two hundred sold already with a prospect of added impetus to the movement when the trade recovers from its vacation and begins to reach out for business.

This fall, in the opinion of many business men, is going to mark the beginning of a big business revival. The transfer of a vast credit balance to the United States and profits from the great industries here is putting money in people's pockets. They will spend it somewhere and if your store window goes out after it with attractive displays you will get more than your share. Lay in several Glad Hands and show your Fits-U's or any optical goods in them. No. 17M52, \$1.50 each.



*No. 17M52 Glad Hand.
Cop'd '15. Pat. appl'd for*

Council Chamber Gossip!

AN interested little group was seated around the table at one of our inter-departmental conferences. Included in the number were several who are in close touch with the trade; whose judgments are sound and reflective of trade conditions.

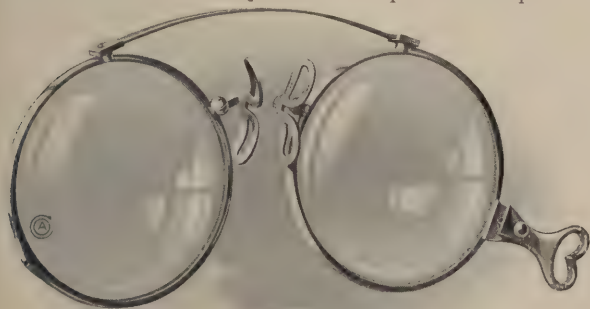
And as the discussion waxed warm it veered 'round, among other topics, to the subject of gold-filled.

Here was a fruitful field. Probably none of the so-called staple lines, such as solid gold, gold-filled, white metal and others, have undergone the expansion and changes in the past two years of the gold-filled.

Some of the conspicuous factors have of course been the production of new lines in gold-filled, price cutting due to competition and overstocked lines and new phases of demand.

"I am no pessimist," said a division superintendent, but where is this all to lead us? What's the status of our filled lines as you outside fellows see it?"

The consensus of opinion was forcefully expressed by one who answered, "There is no cause for pessimism, because *never* in my acquaintance with the trade have I heard complaints on AO Quality; it may be price, it may be service, it may be any one of those thousand and one complaints or superstitions peculiar



Pat'd.

1/10 12K Varsity No. 4745 with Adjustable Guards

to individual likes and dislikes—but they all agree that the AOCo produces the Quality it claims for its goods.

"We have set a high standard. Now let's never allow it to be cheapened by price or any of those compromises that seem so real and imperative at times; which turn out more often than not to be either mere products of the imagination or temporary conditions at the worst. There you have my opinion."

Here you have the point of view behind the AOCo Flag lines. To every manufacturer of Quality goods there always at some time or other comes a doubt as to whether his trade appreciates Quality. He sees the cheaper brand, labelled Quality, making temporary inroads on his genuine Quality goods. And he wonders and doubts, until someone like our spokesman reassures him that strict adherence to a Quality ideal is a man's only practical business salvation. Ask your jobber for AOCo Quality Gold-Filled Flag lines which you will find satisfy on price, profits, serviceability and the most elemental requirements. When we claim these things for our goods you can bank on their being true, for we do not believe in exaggeration

or misrepresentation in order to force a sale. Neither do we wish to see the dealer stocked up beyond the market. What we want to see is a healthy, normal growth in your business and we believe our Gold-Filled lines will maintain it.



"All Work and No Play"

WE'RE holding out something on you this month. There are several good stories we'd like to tell about the foreman of our White Metal department, but every good joke must be given



New Style No. 03112, Flat Invisible Eyewire

a run of one month in the factory before we're allowed to give it out to the public. In that way we get more details than ever happened in the original quip when the story gets back to us. So we promise a good one on George Tully next month.

In the meantime look over one of his neat little creations here, the flat invisible eyewire. A keen knowledge of human nature prompted the manufacture of this little artistic mounting. It has the most delicate suggestion of a rim—the subtle appeal that the fine rimmed shell made when it first appeared. There is no strap to obstruct the field of vision as a patented arrangement fastens the eyewire on to the lens rim. We think there is an excellent little field for this specialty. The factory tells us there has been a strong demand for all styles of invisible eyewires. Why not give it a trial in your locality this fall without over-stocking on it? We will send it through your jobber at \$8.50 per dozen.



A Larger Sharkskin Pad Ready

FOR the information of the trade we show a photo here of a new sharkskin pad, which is simply larger in size than those previously made. This pad overlaps the base it's fastened to, allowing larger, freer and more comfortable gripping surface to the sharkskin.

Available on all Fits-U or Sharkgrip mountings for \$1.00 doz. more than regular Fits-U prices.



The Spirit That Wins Games Made the Spirit of the AOCo

THIS bunch" said "Larry" McLean of the N. Y. Giants after catching three games against the AOCo, "is the fastest minor league combination I've ever seen. It can beat anything in the

New England League." Hard-earned praise from a veteran of three World's Series.

From President C. M. Wells down to the lowly editor, the AOCo and

So the team started in to win at both ends—not so difficult to play two games successfully, when you stop to think of it, if one is business and the other's athletics. Four of these players have remained with the Company since last year. All of the new ones have decided to stay and turn out a winning optical company. One of the latter has already been responsible for a considerable money-saving change at Lensdale. The old tradition of the wandering Ball Player is belied.

The way they've gone at the New England and N. Y. American League pitchers who've been sent up against us here has pulled out weekly crowds of from 1500 to 4000 to see them. Ten out of fifteen wins to date against imported Big League pitchers; three of the five games lost went to eleven and twelve innings.

Big events are shaping themselves in the A. O. Company, and one great phase of their formation is

the development of an outlet for employees' athletic interests. For when Spring rolls around again a big new seven-acre field, level and green as a billiard table, will be ready behind the main factory with two baseball diamonds, two soccer football fields, tennis courts, a quarter-



Gilson signalling for a "low one" on "Larry" McLean

Southbridge is experiencing the greatest baseball revival in ten years. Determined to put AO Quality into baseball, the executive officers went out and secured an aggregation of ex-major and minor leaguers and said to them "Here! We want a team of you fast players who'll play the game for us in the shop and on the field alike. If you

play the game square with us we'll stand squarely behind you to win. Only we want you to know *your opportunities here are what you make them*; and you're to be looked on as part of our organization—not as a pet racing horse, to be discarded when the season's over. So go to it, boys."



Lavoie, l.f.; Johnson, 2b.; Hill, Fin. Mgr.; Matte, Mgr.; Dickinson, r.f.; Pleau, r.f.

Commette, 3b.; Peloquin, p.; Gladu, c.f.; Capt. Vernon, p.; Cooney, s.s.; McIntyre, 1b.; Gilson, c.

AOCo Team, 1915

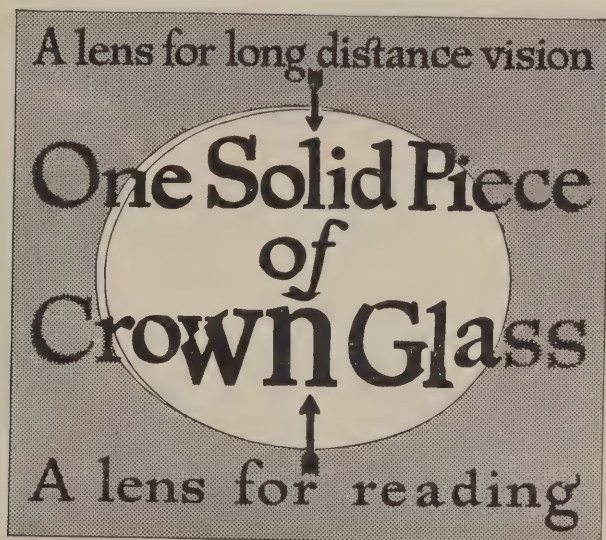
mile running track and grandstand and bleachers to accommodate 4000. Beneath the bleachers shower baths and lockers for clean-up purposes will have been installed. All of which is part of a far-reaching plan to make the spirit of AOCo a vital factor in the production of High Quality optical goods.



"When they played the series of three games with Putnam before 3500 people!"

Our Onepiece Bifocal

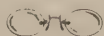
(Patented)



IS THE LENS that makes old people young. Though the wearing of a bifocal is peculiar to the failing eyesight of age, yet the two distinct spherical curves ground into the one piece of crown glass are *invisible*—they never betray the wearer's years. The ordinary bifocal is *conspicuous*, showing distinct lines of division between the reading and distance portions of the lens.

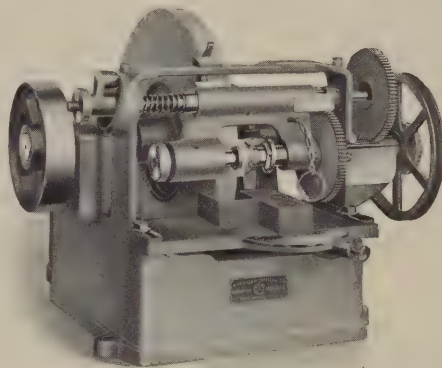
The ONEPIECE BIFOCAL has all the advantages that a single lens of crown glass with two spherical surfaces ground invisibly within it possesses over conspicuous bifocals made of two pieces of glass—one crown, the other flint cemented together.

It is the practical achievement of an ideal bifocal lens in which there shall be invisibility and freedom from chromatic aberration. It can be ground thinner than any other bifocal, there are two sizes of reading portion available and there is only one side to be surfaced. These are the indisputable factors that make the Onepiece a most desirable bifocal for the person who wants to look young and be comfortable in eyeglasses or spectacles. A dealer's energy behind Onepiece is well reflected in profits.



"The Practical Achievement of an Ideal"

The Wonder Working "Young American" Edger



M75. Pat. Pend.

HAS achieved remarkable sales within the short period since its introduction.

The original stock was exhausted immediately. We therefore increased our production to meet the sudden demand and can now ensure quick deliveries on a new lot of M75's.

The "Young American" is *the lowest priced automatic edger on the market today*, combined with a great simplicity that has not lost sight of essentials or completeness in details. Get your order in early. Write for Machinery Catalogue for further details.

Price \$70.00. With motor \$120.00.

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. IV

October, 1915

No.7

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Applied to Ophthalmic Optics
L. W. Bugbee

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Ⓐ

DR. F. P. ARCHER.
OPTOMETRIST.

107 N. FRANKLIN STREET.
WILKES-BARRE, PA.

August
the 10th.
1915.

American Optical Co.
Southbridge, Mass.,

Gentlemen :-

I have been using your new M-75
edger for a week now, and I wish to con-
gratulate you upon your success in turning
out a machine that does the work better,
quicker and at less expense than any other
I have ever seen in operation.

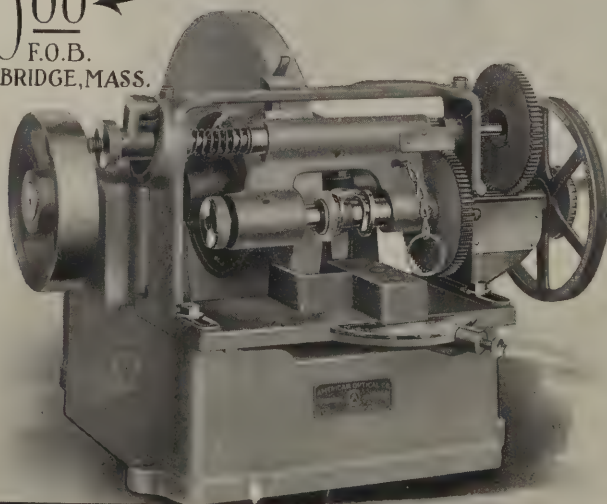
I am running this machine with a
1/20th. H. P. motor using alternating current
of 110 volts. However, I would use a little
heavier motor if I were to use it constantly
but as I still use the larger hand, for all
repair work and Kryptoks. I only use the
small machine intermittently. The motor has
an opportunity to cool off. It is surprising
however that so small a motor will operate
stone at all. I think it must be due to the
large bearings, which by the way, are about
twice the size of those on my large 18 inch
stone. They should wear forever.

Another feature I like about your
machine is it's neatness. All the mechanism
being above the lens, the water does not drip
down on it, keeping it constantly wet and
mussy. The simplicity of the whole machine,
and the ease with which it is operated is also
a feature which is unusual. As I need more
edging machines, I will certainly use the
M-75 as I believe that it is the best machine
on the market, regardless of price.

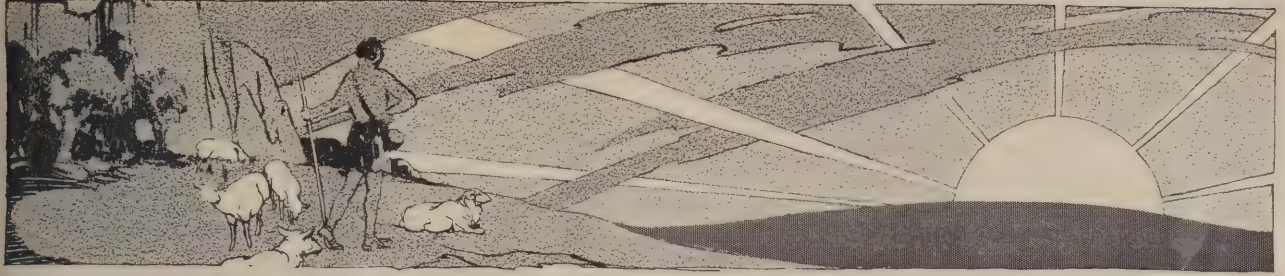
Respectfully,

F. P. Archer

\$70.00
F.O.B.
SOUTHBRIDGE, MASS.



For Description of this
Machine see New
Machinery Catalogue
Have we sent you
Your Copy?



Tinted and Colored Glass as Applied to Ophthalmic Lenses

New Address by L. W. Bugbee of the Scientific Staff of the American Optical Co., delivered before the Mass. State Optometrical Society, August, 1915

IN ORDER to deal intelligently with this subject it becomes necessary first to study the general theory of light and also to understand pretty thoroughly its action upon the eye.

First, let us look into the theory of light. What is light? What we call light is a sensation produced on the retina by vibrations in the ether. A rather technical definition which I have used frequently is as follows: Light is a manifestation of physical force which, acting upon the retina, creates in the mind the impression of vision. With few exceptions, to which we will refer later, light is generated by substances heated to a state of incandescence.

Sir Isaac Newton's Corpuscular Theory

Many theories have been propounded as to the nature and action of light. Sir Isaac Newton argued that light was caused by infinitely small particles traveling with great velocity. He was able to account for most of the different phenomena which occur and to explain them by his so-called Corpuscular Theory. So great was Newton's prestige that for many years after his death the Corpuscular was the commonly accepted theory of light.

Wave Theory is Modern Theory

The now commonly accepted theory of light is the so-called wave theory. According to the wave theory light consists of vibrations or waves traveling through an hypothetical medium which is commonly spoken of as the luminiferous ether.

Sound Travels in Waves

Now sound travels in waves, and sound waves—as is well known—depend upon the air for their transmission. There is in many respects a remarkable similarity between the actions of sound waves and light waves. Both are refracted and reflected according to the same laws. Both can be extinguished by interference. Both have a critical angle beyond which they will not pass from one medium into another but, instead, suffer total reflection.

Certain Sound Waves Pleasing

THERE are certain sound waves, the frequency of pitch of which are immensely pleasing to the ear, while certain other pitches or frequencies are not only intensely disagreeable but are in addition exceedingly injurious to the ear.

Certain Light Waves Pleasing

Likewise with light waves. There are certain frequencies of vibrations which are pleasing to the eye,

certain others which under certain circumstances are displeasing and still others which are positively harmful. To be more explicit: the shrill notes of an exceedingly high pitched whistle are disagreeable and if prolonged may be injurious. These notes represent the high frequency vibrations or waves. Of higher frequency still are vibrations to which the ear fails to respond and which are therefore inaudible. At the other end of the scale are the ponderous waves such as the boom of guns, by no means pleasant to hear. Between these extremes are the tones in common use in music, conversation, etc., tones both useful and pleasing to the senses.

How Light Waves May Affect Persons

SO with light. There are the short waves or vibrations of high frequency corresponding to violet which, if predominant, tend to depress, so that if an unusually keen, bright person was confined in a room where everything was violet he would soon become stupid, if not actually idiotic. Of higher frequency still are the so-called ultra-violet rays or waves to which the sensitive part of the eye is unable to respond and which are extremely injurious. Then the long waves of slow frequency—corresponding to red—which, as is well known, have a tendency to stimulate and excite. Beyond these, and of slower frequency and correspondingly longer wave lengths are the so-called infra-red or heat waves to which the eye is unable to respond and which like the short ultra-violet are invisible and harmful. So much for the points of similarity between light and sound waves. There are ways in which they differ very radically.

Light Will Travel in a Vacuum; Sound Will Not

LIGHT will travel in a vacuum, sound will not. Sound may travel in longitudinal or transverse waves, light in transverse waves only. It is a law in physics that elastic mediums transmit both longitudinal and transverse waves, while incompressible mediums transmit transverse waves only. This being true then the medium transmitting our light waves must be incompressible like a liquid. As light travels even faster in a vacuum than in air it follows that our medium must exist in a vacuum. In fact, the so-called wave theory of light demands a medium filling all space in the whole universe existing in between the molecules of matter in the densest of substances as well as in a vacuum.



"Incandescence"

Little Known About Luminiferous Ether

THIS hypothetical medium as has been stated is called the Luminiferous Ether. Exceedingly little is known in regard to it since it cannot be recognized by any of the senses. We have found that it must be incompressible in order to transmit transverse waves, behaving in this respect like a solid, yet the planets move through it without resistance.

The Action of Light

As to the action of light, I have here a so-called arc light. When the proper current is supplied, the ends of the carbons become highly incandescent. Having



"Sound Waves"

reached the state of incandescence the little particles of carbon have become very uneasy, and acquiring a very rapid motion transmit it to the ether in the form of waves of very minute length and very high frequency. These waves emanating from each little incandescent carbon particle as a center form a wave front of ever increasing radius. Let us assume that as a source of disturbance in the ether we have a single incandescent particle of carbon which we will designate as C. Now the Ions composing the little carbon atom are in a violet state of agitation and vibrate or oscillate with a very high frequency depending on the temperature. The higher the temperature of the carbon atom the greater the frequency of vibration of the Ions composing the atom. Now let our tiny atom of carbon be considered as a sphere, its diameter equaling a wave length. Now, according to the wave theory as developed by Huygen, every point on the circumference of this sphere acts as a new center of disturbance which generates a fresh sphere. These in turn generate other spheres and so on. Thus we have an ever-expanding wave front composed of little wavelets represented by each little sphere.

The ether particles themselves do not travel, but simply pass the impulse along. Everyone has noticed how a boat bobs up and down on the waves but is not carried along, showing that the waves themselves do not travel.

A Study of the Spectrum

NOW let us make a study of the spectrum. Newton found that by passing light through a glass prism he was able to break it up into its constituent colors. We have found by experiment that each color possesses its own individual wave length and that white light consists of a mixture of all different wave lengths. All of these different wave lengths travel at the same speed in a vacuum or in the ether, but when a substance such as glass is encountered they are all impeded or slowed down by an amount depending on the optical density of the substance. The measure of relative speed of the light as between two substances, say air and our prism, is called the refractive index, and for a given refractive medium each color is found to have a different refractive index. In other words each color possesses a different wave length and our prism analyzes, or sorts, them out according to their different wave lengths, refracting violet the most and

red the least. The wave lengths corresponding to the visible spectrum range approximately from 700 micro-millimeters to 400 micro-millimeters, a micro-millimeter being one millionth of a millimeter and is designated by the Greek letters $\mu\mu$.

Wave Lengths of Various Colors

THE wave lengths corresponding to the different colors are as follows:

Extreme red, 760 $\mu\mu$; deep red, 687 $\mu\mu$; bright red, 656 to 670 $\mu\mu$; orange, 589 $\mu\mu$; yellow green, 535 $\mu\mu$; green, 517 to 527 $\mu\mu$; blue green, 486 $\mu\mu$; blue, 460 $\mu\mu$; violet, 430 $\mu\mu$; extreme violet, 396 $\mu\mu$.

The Invisible Spectrum Beyond Red and Violet

Beyond the red are the infra-red or heat radiations. These have been explored by Prof. Langley up to wave length 61,000 $\mu\mu$. Beyond these are the electrical vibrations used in wireless telegraphy. Beyond the violet are so-called ultra-violet or chemical radiations. These have been explored by photography using a fluor-spar prism down to wave length 100. The so-called X-Rays are supposed to be extremely short ultra-violet. Thus, it will be seen that the visible spectrum comprises relatively a very small part of the whole.

Three Points of View in Spectrum Study.

THE study of this spectrum and the effect of the different wave lengths upon the eye is coming to be of extreme importance. It is necessary that we should take up this study from three different standpoints: (1) The Physical, (2) The Anatomical and (3) the Psychological. Of the Physical properties of light we have a fair understanding. We are also familiar with the Anatomical construction of the eye and have a fair idea as to how it performs its functions. But of the Psychology of vision we know almost nothing.

Effects of Some Rays

IT is quite generally conceded that both the ultra-violet and infra-red sections of the spectrum are injurious, particularly when present to excess. The ultra-violet radiations are excessive in most modern systems of illuminations and call for means to counteract their harmful tendencies. In some mechanical pursuits such as oxyacetaline welding the ultra-violet radiations would soon destroy the eyesight if the eyes were not properly protected. In the same occupation it is necessary to protect the eyes from the infra-red or heat radiations. When working around X-ray apparatus it is also necessary to protect the eyes, this being accomplished in this case by thick lenses made of dense lead glass. It is understood and conceded by everyone that it is necessary to protect the eyes in such extreme cases, but it is only just coming to be recognized that the extremely artificial conditions under which we are living have extended the field for the use of tinted and colored glasses far more than we have heretofore realized. It might be said that the use of colored glasses is not new; that their use dates back



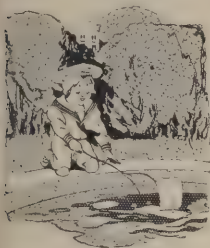
"Boom of Gun"

almost to the time when glasses were first worn. This is true, and we are led to inquire into the reasons why one by one different colored glasses were tried and discarded.

Some Ineffective, Unscientific Glasses

GREEN glasses were probably the first worn and, in fact, these tinted glasses are still popular. Blue glasses were also worn. It is difficult to see wherein they could have been of any benefit except as they cut down the amount of light. At any rate, they have disappeared.

Gray and smoke were tried and are still used. In the light of present information and for the purposes for which they are generally worn they are harmful and dangerous. They are used to cut down the illumination in cases where it is necessary. It is a fact that they do cut down the visible spectrum but it is now known that they are extremely transparent to the ultra-violet on the one end and the infra-red on the other, hence they should not be worn. The information in regard to smoke glass is the result of tests recently made by



"Boat Bobs on Waves"

Prof. Pfund of Johns Hopkins University.

Amber glasses have long been used and are still popular. They are good, and if cutting out the ultra-violet was the only thing to be desired they would answer our purpose very well.

They, however, absorb a large percentage of the visible spectrum and like the blue and green change color values. Fieuzal and Euphos both are good but have the same defect, i. e., they change color values.

A Few Scientific Glasses

NOW for all-around, every day wear, we require a glass which will not change color values and yet will absorb sufficient of the ultra-violet radiations. Sir William Crookes glass serves perfectly well, in that it absorbs ultra-violet up to wave lengths 360μ , which covers that part of the ultra-violet which is most injurious. It is wonderfully transparent in the visible spectrum and begins to absorb again in the infra-red. Thus it is a very good glass, viewed from the theoretical standpoint. Light shade Noviol is also good, absorbing the harmful ultra-violet and like the Crookes is extremely transparent to the visible spectrum. It also absorbs well in the infra-red region.

Luxfel also is good. It does not absorb quite so much of the ultra-violet as Crookes and Noviol but is of very pleasing shade and in practical use on a large scale has given splendid results. Amethyst has been and is still largely used. Its absorption in the ultra-violet section, as will be demonstrated later, is very small.

Tinted Glasses For All-Around Wear

NOW for all-around, every day use it is obvious that a tinted glass, and not a colored glass, is wanted. We do not wish to change color values: first, because it is inconvenient, and secondly, because the

permanent use of colored glasses tends to render the eye color-blind to the colors changed or absorbed. For instance if we wear permanently a glass which absorbs the violet and blue, the little nerve centers which respond to these colors soon become atrophied and fail to respond to these colors, just as a given muscle if never used soon becomes atrophied and useless.

Various Uses and Several Glasses

WHEN it is required to cut down the general illumination the dark shade Crookes has the field all to itself, as it cuts off the ultra-violet on the one end, absorbs heavily in the infra-red, cuts down the general illumination and *does not change color values*. This glass should always be used when it is desired to cut down the amount of light. Smoke should never be used as it is *positively harmful*. Now, I do not wish to be understood as condemning unreservedly the use of colored glasses. For special purposes they are invaluable. For rifle shooting, sporting purposes, viewing scenery and for any vocational purpose where keen, long distance vision is required the medium or deep shade Noviol gives wonderful results. It absorbs blue and violet, which are responsible for haze in the atmosphere, and by shortening the spectrum renders the eye achromatic. It is wonderfully transparent to the yellow, green and red, thereby differing from amber which would otherwise answer the purpose nicely. It is only fair to say that good amber does help in spite of its heavy absorption in the visual spectrum and where cheapness is essential can be used to advantage.

Deep shade Euphos is likewise quite effective but, of course, tends to color everything green. I will now proceed to demonstrate the different glasses with the spectroscope upon a specially prepared screen which shows the invisible ultra-violet section. Before doing so, however, I would be glad to answer any questions that may have occurred to you. I have purposely covered quite a wide field in the hopes that a discussion might be started covering as wide a range as possible. A discussion and demonstration then followed.

'ark Ye To Noah !

August 10, 1915.

Gentlemen:—In answer to your reply of July 19th I wish to state that Sir William Crookes lenses have no "Equal," as I prescribed to a patient seeing spots, having corneal opacities and the results are most remarkable. I therefore wrote an article on the strength of my experience for a local paper, *The News*. I also wish to call your attention to the reason why I recommend the other tints: in case Crookes lenses are too expensive for some people, they can obtain another tint a trifle cheaper.—NOAH GEIGER, D.O.S.

One from the Happy Hunting Grounds

Maine, July 25, 1915.

Dear "Judge"*:—You will see by the enclosed that nature has infringed on Amoptiscopes. Please take whatever steps you think advisable.

This sample was found near fish's offices and do not know if patentable or knot.—"KIT" CARSON, Adv. Mgr.

*"Judge" H. H. Styll of Patent Dept.



Does Your Customer Remember You?

Poster Stamps in Colors Help Him Remember Your Shop!



No. 1

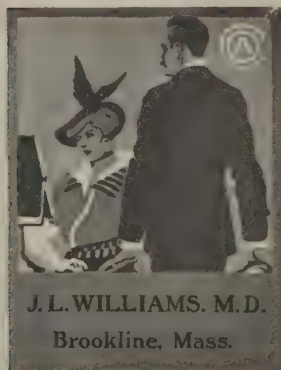
ture advertising helps you ever saw.

They are expected to appear on the envelopes and stationery of Mr. Dealer. When he sends a letter or a monthly statement or a package or any kind of a notice to his patients he attaches one of these assorted poster stamps. It goes, with his name and the location of his shop printed on the front of it, directly into the home of the patient.

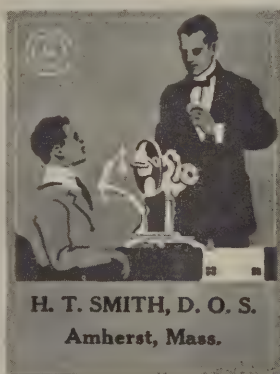
The patient is much taken with the beauty of the miniature advertisement, and while he may forget it for sometime yet when the time comes 'round again for him to buy a pair of glasses he recalls the shop with the attractive Fits-U steel sign, the snappy, interesting window displays and the exquisitely colored poster stamps.

These poster stamps, in short, are part of the cumulative devices that edge you into your customers' favor. Little things in themselves, yet taken as a whole their subtle, pleasing art work carries a most effective appeal. Your shop is thereby remembered. Which explains why so much emphasis is laid on art work in our advertising department.

Design No. 1 is printed with stylish figures in white, cream and rich brown on a soft gray and pink background.



No. 5



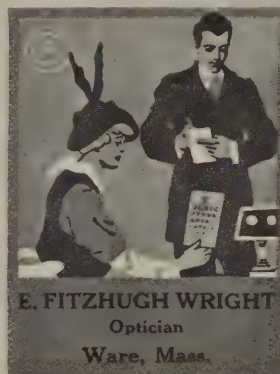
No. 3

Design No. 2 has a bright grass green border and background for the dealer's imprint. Its figures in dark blue and cream colors are outlined against a pearl gray background.

Design No. 3 in light tints of blue, pink and cream on soft pearl gray is very attractive.

Design No. 4 shows two fashionable figures in a combination of reddish brown, dark green, light gray and cream color.

Design No. 5 presents the figures in deep purple and brown, and soft cream color against a pearl gray background.



No. 2

Design No. 6 shows a sky blue border, dark green and cream colored figures offset by gray. All six designs have gummed backs ready to stick on to a letter.

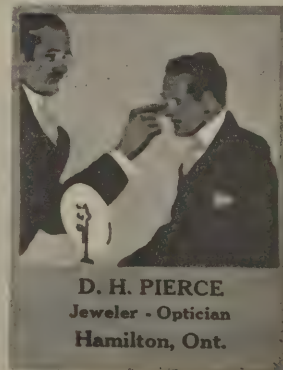
These six designs are, therefore, pleasing combinations of soft light tints, and deep, rich browns, greens and blues. They may be made up with your

imprint in a regular assortment only at \$1.50 per 500. No orders can be accepted for less than 500 and we charge, not for any profit but on a basis of cost. At this time of the year, when you're getting ready to mail out a large number of Thanksgiving and Christmas goods notices the poster stamps will be just the thing to brighten up your message.

Our regular assortment of 500 or more includes each design—Order now.



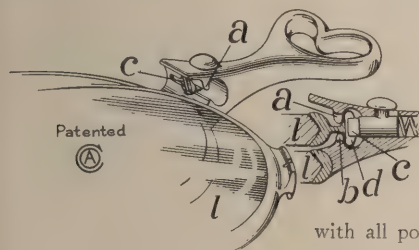
No. 4



No. 6

The New Sibley Catch on All Folding Gold Varsities

ONE of those live opticians who's never satisfied with anything short of perfection said to our visiting foreman, "If you'll make me a folding Varsity that will not spring open at the wrong time and one where the lenses are separated so they won't scratch, you can have all my Varsity business."



Our foreman was on a visit to the trade, for we believe in sending our factory men out into the trade every so often to keep them in touch with all points of view and the latest trade developments.

Well, he thought this over and came back to us with a new catch figured out in his mind. The result is the Sibley catch, illustrated above; let us tell you about it.

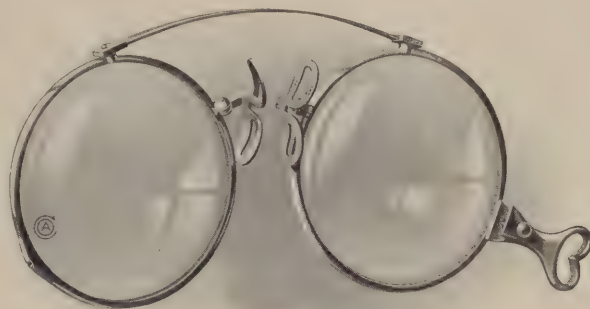
To keep the lenses apart he conceived the idea of a shoulder *b* projecting above the plane of lower lens and serving both as a support for the upper lens and as a dividing shelf. To keep the upper lens firmly in place he added another shoulder *a* above it. On the eyewire of the upper lens the catch *d* was widened to set snugly and rigidly between shoulders *a* and *b*. This also allowed of a deeper and larger slit into which the handle catch, *c*, could fit.

Once closed, any movement of the lenses up or down or to right and left was negligible. The Sibley catch solved the problem of the optician.

It is no longer possible, therefore, on AOC folding Varsities to say that the lenses scrape together or fly open at the least jar. Neither do they slide by the catch, for the new guideway auto-

matically catches the lens until it is desired by pressure on the spring catch to release it.

Just to show the merits of the Sibley catch, a sample was taken at random and thrown to the floor with considerable force a number of times. The same was done with a competitive folding eyeglass. The former held firmly without springing open; the latter sprung open as it touched the floor.



No. 4745. Solid Gold Varsity. Patented

The new Sibley catch is now being supplied on folding gold AOC Varsities at no additional charge. If you are considering the possibilities in developing Christmas trade why not suggest our solid gold Varsities to your customers as a desirable present for someone at home? The gold Varsity makes one a very distinguished-looking individual whether he wears it at the theatre, opera, at home, or in the course of business. Order through your jobber.

Southbridge Pickin's

OUR peepul got all-fired curious one day last week when a great big machine drove up in front of the American Op. and stopped. Not that curiosity is at all furrin' to Southbridge, but it was rumored among them as were in the know that the machine contained two big bugs.

"When they git out it was seed one of 'em was Prex Henry C. Doleman of a big store over in Boston called Lloyds that sells consid'erable spectacles. He had with him a feller named Fred C. Clarke who 'Cardy' Monahan says wuz the Manager of a team of Pirates out in the Pittsburgh National leagues.

"Et enny rate they went right in the front door where Fred Hill of our town met 'em.

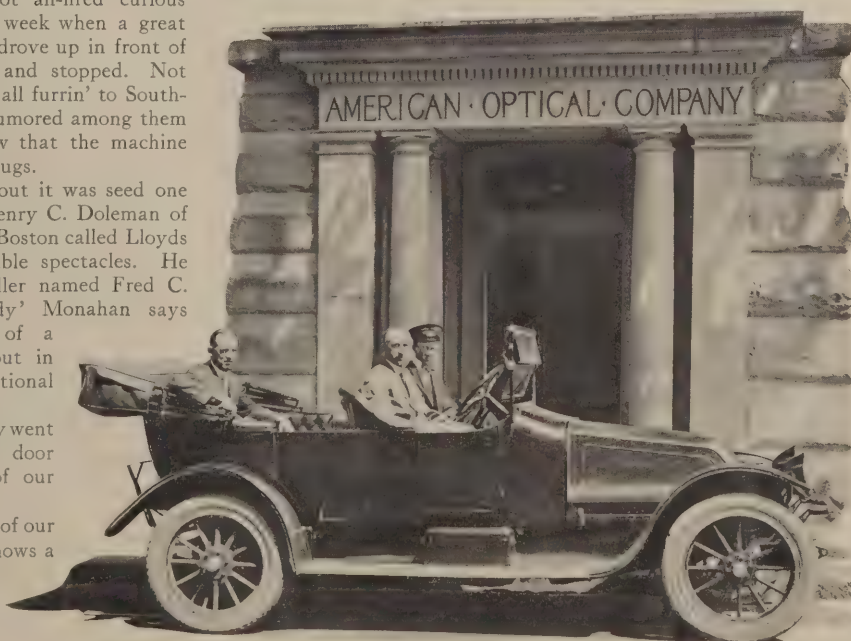
"Fred is manager of our baseball nine and knows a few things about baseball and when he ain't managin' he's the diplomat of

our optical company. Fred says Fred Clarke wa'n't after his job; simply see a chance to git a ride up from Boston in Henry's machine an' hopped in. Sez Clarke brought a goggle with him he'd patented

and that it looked like a pair o' horse blinders but would do fine for them National league outfielders when they git goin' lickety-split.

"The American Op. gave 'em a lunch too, but only four rung in on that, and while they was settin' there eatin' Fred Clarke he told 'Chan' Wells all about the National game.

"Clarke had to get back to Boston to play the Bostons, so they grabbed Hen's Franklin and drove off right soon. Most everybody in the factory seed 'em go. 'Cardy' Monahan says he never *did* hev such a swell look at a big bug before. Glad to hear it, Cardy."



Manager Fred C. Clarke, Pittsburgh Nat'l League Team and Pres. H. C. Doleman of Lloyds

Economy in Your Lens Selection

IN cutting and edging it is most desirable, in the interest of economy, to select the smallest regular uncut stock size lens that can be practically used on whatever prescription job that may be in hand. On

account of the difference in cost between the respective sizes of uncut lenses regularly supplied, a needless waste may be prevented by avoiding the use of too large a lens.

In order that the operator may readily select the correct sizes to use we have tabulated below some suggestions which may be safely followed in all cases when AOC_o lenses are employed.

These sizes should be presented to your shopman as they may be the source of a considerable saving to you.

Sizes of AOC_o Uncut Lenses to Select for use on Prescription Work are as follows:

Rx Side To Be Edged

Width	Maximum Length
31.5 mm. x 43 mm.	mm. }
32.5 mm. x 42 mm.	
39 mm. x 40 mm.	
39 mm. x 45.5 mm.	

Uncut Size and Shape to Use

35.5 mm. x 45 mm.	regular oval
42 mm.	round.
47 mm.	round or square.

The above suggestions take into consideration a maximum decentration on the major and minor axes according to the following table:

Foci	Decentration		Foci	Decentration	
	Major Axis	Minor Axis		Major Axis	Minor Axis
	mm.	mm.		mm.	mm.
0.12 to 0.37	6.	3.	1.37 to 2.00	2.	1.
0.50 to 0.87	4.	2.	2.12 to 3.00	1.5	.75
1.00 to 1.25	2.5	1.25	3.25 up	.75	.375

Inasmuch as most high quality lenses are purchased in uncut form it is of interest to the dealer to avoid this expensive waste as much as possible. We hope the above tables will be of assistance.

While we're on the subject of lenses we might as well state that in our opinion the trade is inclined to put too much stress on *surface* in their purchase of lenses. From our experience we feel that Center and Focus are of much greater importance. A scratched lens of course is hardly to be desired, but its importance or defect should not be magnified, because the minute a lens leaves the dealer's hand a rub of the handkerchief, a slide on the table or contact with any hard surface—all these are going to leave their marks

on the lens without materially destroying its effectiveness. It may even be scratched in transit or while being removed from the dealer's shelf. Our Primex and Centex high quality lenses are rigidly inspected in every particular. In selecting your lenses, therefore, lay greater emphasis on such essentials as Center and Focus, and less on trifling scratches which do not materially lessen the value of a lens. This can be done without deviating from the highest standards.



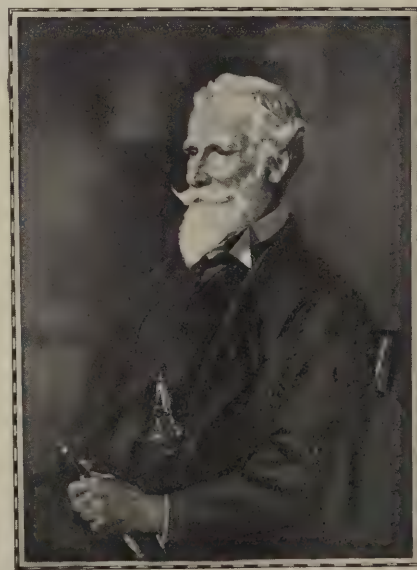
Are You on Our Mailing List?

HOW many are there in the trade who are not on our mailing list and would like to receive the AMOPTICO regularly? Many times of late we have heard it said, "I get the AMOPTICO, but the boss or the shopmen get hold of it and I never see it again."

We will be glad to send additional copies to a shop where this condition obtains or where the AMOPTICO is not now received. But to prevent duplication we would ask, as a favor, that those who can do so to club together on one copy. The filling out of the blue blank which we shall send you upon receipt of your request is a mere formality to keep our records straight and enable us better to know your advertising wants.

And while you're writing tell us what kind of articles interest you and how we can make the AMOPTICO more interesting or instructive. Send in your name.

Handsome Crookes Photogravure



THESE beautiful reproductions in sepia of E. A. Walton's famous painting of Sir William Crookes, O. M., F. R. S., are now ready. In response to requests from those who saw last month's cover, we have gotten out this wonderfully artistic sales help. 10" x 12," suitable for framing. On rich paper with no advertising matter attached. Send eight Fits-U Tags or 15c in stamps.

We've Earned the Solid Gold Hallmark of Merit

WHILE we were in the midst of a happy little thought today along came a letter that read, ".....we are kickers by nature on some things, but your frames and mountings are unequalled the world over."

The best thing about a testimonial like this is that it is not carefully selected and pruned out of a batch of complaints or praises. We have taken it at random and there runs along with it the open satisfaction on our part of knowing we are hearing the truth.

We are not given overmuch to great pride in our accomplishments. There is too much of the spirit of discontent here to allow us to sit back in self-satisfaction and say, "we have reached the quality limit, none can touch us." That has been foreign to our make-up, as you'll note from the growth of this business.

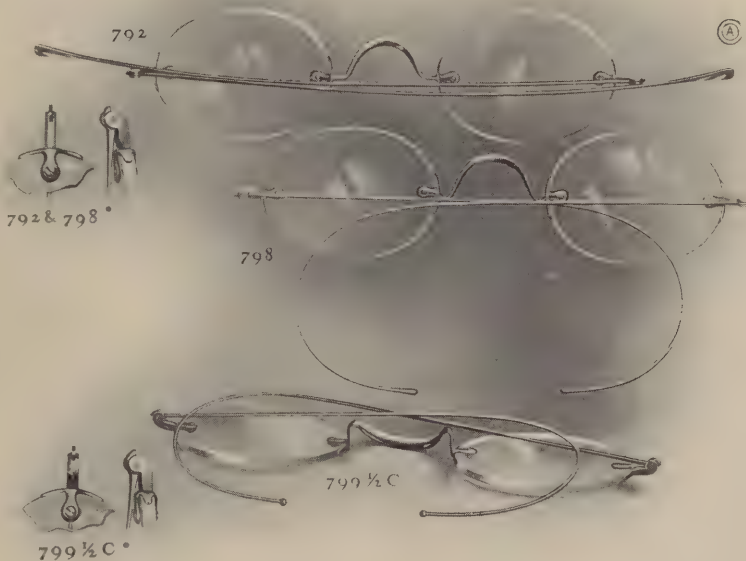
But though our organization is alive and progressing fast we're getting old, as manufactories go, and with an eighty-three year optical experience we like to sit back once in a while and just boast a little about the part we've played and our goods. It's our just due, isn't it? So when the venerable AOCo begins to talk about quality we are always assured of the respectful attention given by a younger generation to the proud claims of a still vigorous elder grown wise in the game.

We think we know a few things about quality. And if you're human like the rest of us you must have wondered somewhat whimsically why the Sherman Act hasn't been invoked on American manufacturers, jobbers, dealers and what-not for Monopoly on Quality in Restraint of Trade. Every Tom, Dick and Harry claims it fearlessly. The world seems almost too perfect to buy in. Few of those that make free with this word realize what it means in actual practice.

Our advertising began only five years ago. Our only means of establishing AOCo quality previous to that was by years of practical, hand to hand

demonstration of merit—through the everyday use of the goods themselves. So when we began advertising we had a right to use the word Quality and we knew what it meant in years of conscientious endeavor. If you will notice, the tendency of optical manufacturing competition is too often to cut under the AOCo—to market the just-as-good line and call it *high quality*.

But the farsighted dealer knows that AO solid gold lines merit the Quality hallmark, stand up under severest conditions for years and prove the best investment. That is why a certain modest pride in accomplishment justly belongs to us. Look over our Christmas solid gold lines at your jobber's.



"Unequalled the world over"

Is Your Fall Window Complete?

AFTER all, we have found that when you put out an article with real merit to it there is immediate demand. After selling close to 800 Model Men we are now at liberty to tell you we were originally skeptical about it. "They are worth \$7.50 apiece,"



17M52. Glad Hand.
Copyrighted 1915
Patented

said some visiting dealers and others in the office here, "but you'll never sell them." The above quantity sold to date is the conclusive reply. It only goes to show that the optical profession is appreciative of the best.

Fortunately our latest little innovation, the Glad Hand, could be made more economically because of its size and we were enabled to offer it at only \$1.50. And our beautiful new steel Fits-U Optical Shop sign we can give away.

The 17M52 Glad Hand, at its present rate, will soon be visible in most every optical window the country over. Its conspicuous

neatness, the natural pose of the hand and its distinctly ornamental features such as the attractive Fits-U display cards, have given it instant popularity as a window or fitting table fixture.

A flesh-tinted Glad Hand in each corner of your window with a Fits-U eyeglass, for example, is a very effective little advertisement for you and tones up the window. Placed on your fitting table or counter it fits nicely into the professional atmosphere of your office without making itself too prominent. Have you ordered yours yet? By number 17M52, at \$1.50 each.

A Self-Selling Combination for Fall and Winter

THIS month we are introducing the new Protex line of what we call "Better Set" goods. It comprises a number of self-selling qualities that will be of interest to you.

This is, first of all, a gold-filled fingertip line with micoquille colored lenses—delivered in amber immediately from stock and in Fieuzal or smoke on brief notice. Like all colored lens goods it has a variety of uses, from the movies to protection against snow glare.

We call it a self-selling line; our aim has been to make it up so attractively in a vermilion red and Dutch blue container, with six Japtol cases neatly arranged inside, that you can place it in your window or on the counter and obtain a quick turnover without the necessity of giving it your undivided attention. Half the battle for quick sales, saving in time and creation of new wants in the customer's mind is solved by this self-selling, attractive merchandise.

The Protex display set of $\frac{1}{2}$ dozen mountings comes in two sizes of containers, according to the shaped



A Self-Selling Combination

lens desired: one, No. 3753A, which includes six mountings in No. 725 Japtol cases and 42 mm. round eye; the other, No. 3753B, which includes the 43 x 35 mm. oval eye, and the six mountings in No. 715 Japtol cases. Only one size eye is furnished to a set and each set is sold complete only.

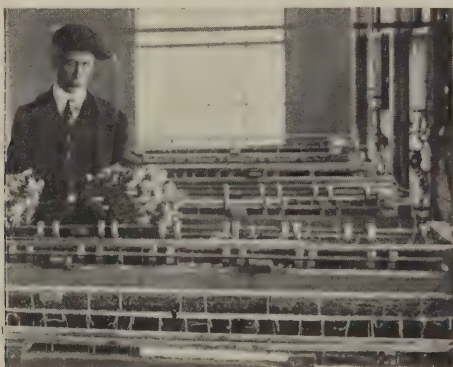
The gold-filled mounting used is our well-known No. 7103 fingertip mounting and carries four dif-

ferent bridge sizes in each set, with two duplicates of the most popular sizes, making six in all. Each complete set likewise includes an assortment of both zylonite and sanitary guards.

We can assure you of immediate service from stock on these Protex Sets. We can satisfy you on price, profits, variety and attractiveness. A combination of the qualities mentioned above will find you a market in the coming fall and the glaring days of winter. Our price for either the round or the oval eye set complete as shown here is \$4.15. Get an opening order in to your jobber quickly.

There's a Reason Too for Our White Metal Superiority

IT was a hot Sabbath in June when George L. Tully, foreman of the White Metal department, rolled up his sleeves and started in on the ice cream freezer. The machine cranked splendidly and all went merrily. But it



A corner of the department in which the nickeling is done. Foreman Tully in the picture has two bunches of goggle screens just as they appear when taken from the solution

was hotter an hour later when George discovered somebody'd left the dasher in the kitchen sink. After describing a picturesque arc the freezer was lost to view in the limpid depths of Alum Pond, and cream, which floats because it is lighter than water, was the only trace that reappeared. The family ate pie! Such is the extraordinary energy that moves and has its being in our genius of the steel department.

When George started in thirty-one years ago he was endowed with superhuman energy and by the tale of the freezer you know he has it still. So when he wasn't working at a bench he was working out with the local ball teams. As it finally worked out the ball player turned bald, settled down to manage the rimless goods and storehouse and turned his energies to such good account that he has been foreman of the White Metal department for some years now, employing three hundred men. The famous blue cap covers hairless brains!

Every time we do business with "Pop" Tully we know we've run up against what someone in their definition of of genius called "inspired common sense." We realize why the trade, seeing only the product, regards it as the most superior white metal, or steel, goods on the market. For we see the personality behind this department. Here is a dynamic individual who served his apprenticeship with the late G. W. Wells, and has shaped with his own hands the development of white metal goods from their beginning. With the accumulating years there has been no sign of a let up in the keen, spirited enthusiasm of his work. He knows the game and loves it, while for sheer persistent loyalty to the AOCo you'll know of no finer example than George L. Tully—and exaggeration plays no part in this statement. Around here they say, "If you want any real advice on white metal goods see 'Pop' Tully; if you want action on them he'll give it to you, and when he promises, you know he's good for everything he says."

And when all is said and done and the famous blue cap covering the "skin diamond" appears in the doorway for a brief second to say, "Hello, Mister Man" you can't help thinking that these old timers are the finest in the world. They "make" an organization. Ask for our steel goods.

A Few Winter Coverings for Christmas Goods

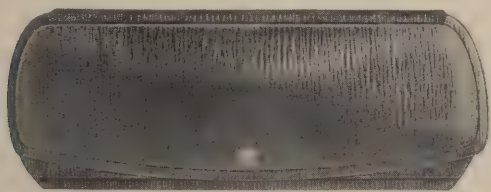
IT was not three months ago that two of our managers, while visiting the trade, discovered an interesting fact about our Vicar cases.

They reported, "We are turning out a Vicar imitation (leather) case that makes the trade say it's a wonder. The people we've talked with for instance, have just told us it is difficult to distinguish between Vicar 'MG' and our genuine 'G' leather. Some have even asked us to mark the Vicar material in such a way as to make the difference perfectly evident."

Well, on page 19 of the March AMOPTICO in announcing the new Vicar line we told the trade that Vicar leather *feels* and *looks* like genuine leather." Here then, is, our confirmation. The result we aimed at has come about as close to perfection, therefore, as the most exacting could ask. In the near future glance over this remarkably varied line of splendid Vicar leather grains if you are looking for a really high class proposition at a less-than-leather price.

Lizard Grain on Real Leather

At the same time, speaking of cases, there is superior leather case covering we should like to have you consider for your fall needs—the exclusive AO lizard grain which is unquestionably one of the finest creations of our case department. We know of few instances in reproduction of such costly genuine leathers as Seal, Morocco and Lizard where as fine a result has been achieved. As the illustration here shows, the natural grain of the genuine lizard has been beautifully embossed. It is an exclusive proposition, for there is none on the market like it. This is easily understood because none has been able to reproduce the marvellous fine grain of genuine lizard as we have. We supply the exclusive lizard grain in green, black and red leather. It is carried in all our beautifully thin "watch model" styles with patented self-closing cover. Our new



Patented. AOC Co Spectacle Case No. 325 MG Vicar

vulcanizing process holds it tight and smooth on the steel forms. There is practically no limit to its wearing properties for it is real leather, and there will be no limit to its popularity if you decide to give it the trial we advocate. The lizard grain has already had a great sale abroad as we reminded you some months ago. It comes at the same prices as "J" watergrain leathers and is a lizard grain on cowhide buffing.

Sterling Silver for Quick Holiday Profits

Gold, silver or polished aluminum cases have an excellent sale during the social and holiday seasons. This is our reason for remind-



Lizard Grain on Cowhide Buffing.—Patented

ing you also of our Sterling Silver cases, which combine utility with a high degree of artistic distinction. A word as to quality. You can find sterling cases at a very wide variety of prices. When you select a cheap grade you get exactly what you pay for—a thin, light, cheap article.

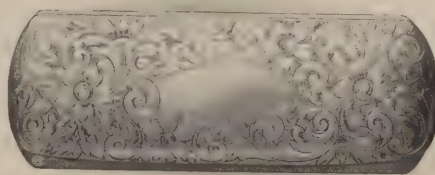
The price of a silver case is largely determined by its weight. A light silver case is often very much worse than one of polished aluminum, for it is very soft. A slight knock will leave a dent, and in a short time it becomes so twisted out of shape that the cover will

not shut properly. On the other hand, a case may be made unnecessarily heavy, thus adding weight and needless expense. Knowing these dangers we have very naturally avoided them. You pay a fair price for an AOC Co Sterling Silver self-closing case, and may be sure that you are neither paying for unnecessary silver nor that the case is so light as to give unsatisfactory wear.

Each case is individually packed in a cotton flannel bag. The qualities of perfect utility, complete adaptation to every

requirement, sterling value and expert finish will make AOC Co Sterling Silver Cases a winning line for you to carry during the Christmas season.

The same old round of Christmas goods will



Patented. No. 715-10 Silver, for Large Eyeglasses

bring the same old round of trade. You need enterprise to win the prize of increased business. Call on your jobber to show you our complete Christmas line of cases. Every style to meet your exacting requirements.



Announcement !

Owing to the shortage and high prices of good Cowhide Buffing, which is an ideal leather for spectacle case coverings, manufacturers lacking our financial resources and ideals of quality have resorted to the use of skivers, otherwise known as a sheepskin split, an extraordinarily thin case covering which tears at the least scratching. We therefore announce that

Our Better-grade Cowhide Buffing Coverings include the following AO leathers:—B. Lizard grain, F. Levant grain, G. Long grain, H. Morocco grain, I. Seal grain, and J. Water grain.

Our Regrains are also made on Cowhide Buffings:—BB. Lizard grain, E. Coarse Water grain, FF. Levant Grain, GG. Long grain, HH. Morocco grain, II. Seal grain.

Ultex Onepiece Bifocal • The Master Combination for Distance and for Reading

Practical Selling Points

The bifocal today is accepted and worn by a great army of people as necessary to good, comfortable eyesight. This is particularly true with people of advanced years, in whom the power of accommodation is waning.

Its general utility is known to the general public, therefore, beyond the necessity of argument. So when the dealer advocates the bifocal his problem is *which* bifocal to choose.

He can give his customer a general line of arguments that will apply to all bifocals. For instance, he can say it combines two glasses in one; that it saves the energy of carrying two pairs of glasses and changing them constantly, or of putting on and taking off one pair of glasses many times a day. "The bifocal," he continues, "can be worn for distance or reading all day long without removal." "Very likely," he reasons, "the man who needs reading glasses, needs bifocals; I will recommend bifocals in such instances hereafter," and so on. He preaches the arguments of comfort and convenience that apply closely to all bifocals.

But when he comes to select that bifocal *which* is the most efficient he is immediately possessed of new arguments that cannot be met by

TRADE MARK BIFO (LUXE)

Technical Reasons Why Bifocal Surpasses Others

ALMOST from the very conception of bifocal lenses a well defined purpose has been kept in view by the manufacturers and others interested in the development of ophthalmic science, looking towards the production of a practical bifocal lens having ophthalmic values and consisting of a solid piece of crown glass with the two lenses ground invisibly on its surface.

Most ingenious methods were devised but did not appear to be any process devised which would do away with such glaring defects as (a) imperfect spherical surfaces, (b) well defined "zones" having disagreeable prismatic effect between foci, (c) deep grinding and polishing scratches or grooves.

Having long realized that the successful accomplishment of this long sought object would give the world a bifocal lens so distinctly superior to the world a bifocal lens so distinctly superior, be literally in a class alone, we have now realized it in the Ultex Onepiece Bifocal, registered trademark UNI-BIFO (Luxe).

Ultex Onepiece lenses have the near and distance spherical curves ground on the "bifocal" inner side of a single piece of clear crown glass of index 1.523 in toric form. The regular forms of this lens are in two stock sizes of reading portion although special sizes may now be made to order.

Blank B., 47 mm., round; with 19 mm. full circular reading portion.
Blank E., 49 x 38 mm., oval; with 30 x 15 mm. semicircular reading portion.

These sizes are to be known as regular, and are both listed at different prices, giving a choice of two sizes of reading addition, which is a most important advantage.

The sizes of the uncut blanks themselves have been selected with a view to including the entire range of lens sizes usually called for in modern prescription work. In thickness the blanks average approximately 3.5 mm. It must be remembered, however, that one side of the lens is already surfaced, the thickness being sufficient to permit of making all usual combinations, including strong spheres and prisms.

An Ultex Onepiece blank only 3.5 mm. thick may be surfaced quickly, effecting an important saving in time and labor.

The reading portion of the lens lies outside the curve of the distance portion, so the distance portion of the blank may be surfaced extremely thin, making the lenses light and handsome.

These lenses, being made of a solid blank of crown glass with two lenses ground invisibly on its surface, have some very conspicuous advantages not possessed by any bifocals.

In conclusion consider the following qualities:

- Absolutely no chromatic aberration.
- Invisibility.
- Thinnest of all bifocal forms.
- Two sizes of reading portion available.
- One side only to be surfaced.
- A hard surface of crown glass to resist scratching.

Order from your jobber.

Practical Selling Points (Continued)

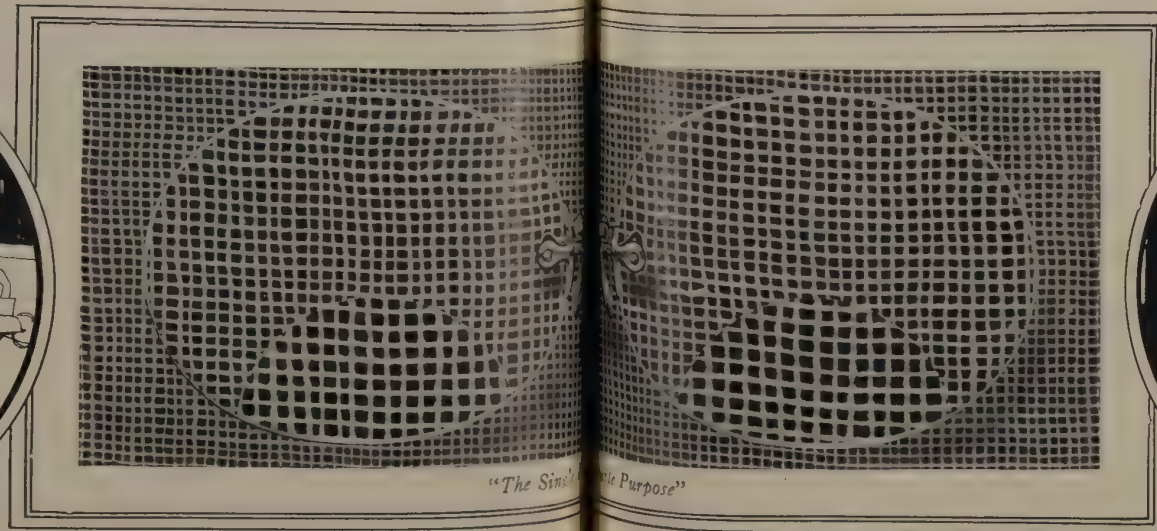
other bifocals—for he has selected the Ultex Onepiece.

So over the fitting table he adds to his previous arguments these facts: In the Ultex Onepiece only the slightest suggestion of a dividing line between reading and distance portions is visible. If examined from a little distance it would be perfectly invisible. The advantage of it, therefore, lies in its inconspicuousness which preserves one's youthful appearance. A conspicuous bifocal, on the other hand, always conveys the suggestion of advanced years to people. Which explains why the *invisible* Ultex Onepiece is so popular.

The Ultex Onepiece bifocal is ground from *one piece* of crown glass, while all other bifocals are made or cemented out of *two pieces* of glass—one piece of flint, the other of crown.

When a bifocal lens of one piece of glass is worn, it has no color aberration.

These, then, are some of the selling points that recommend the Ultex Onepiece to the dealer as a source of profit, prestige and customers' satisfaction. A glance at the illustrations gives some practical suggestions of the daily use of the Ultex Onepiece Bifocal. Try them out and increase your sales.



"The Single Purpose"



The Preparation of Eye-Preserving Glass for Spectacles—II

By SIR WILLIAM CROOKES, O. M., F. R. S.



AFTER discussing the methods and aims and some of the photographic results of my experiments in the preparation of eye-preserving glass for spectacles we may now proceed to the testing of synthetic glasses for opacity to ultra-violet light.

The plates are now tested for the opacity of the glass to the rays of the ultra-violet end of the spectrum. The spectrograph with complete quartz train, already referred to, was used. By superposing on the radiation from a Nernst lamp the light from a high-tension electric discharge between poles of pure metallic uranium it is possible to produce a practically continuous beam extending from $\lambda 2000$ to $\lambda 8000$ and the absorption of such a beam of radiation, produced by flat plates 2 mm. thick of all my experimental glasses, has been thereby recorded.

To Ascertain the Amount of Heat

TO ascertain the amount of heat obstructed by the plates of glass I first used a Melloni's thermopile as described in his papers, but I soon found that modification was needed as the pile responds to the orange and red rays as well as to the infra-red.

Plates of dark smoky quartz 2 mm. thick were tested with the thermopile, and it was found that they transmitted nearly all the heat whilst cutting off 80 or 90 per cent of the light. Biotite (black mica) exerts a similar effect, and is more easily experimented with than smoky quartz. For many years I have used biotite for cutting off light and transmitting heat; I accordingly investigated the properties of many specimens of black and dark brown mica to find out which would be best for this special purpose.

Selection of Black Mica (Biotite) for Diathermancy

THERE is a certain gradation of transmitted rays according to the thickness of the dark brown micas. All of them cut off rays at the blue end of the spectrum, and as the thickness increases the portion of the spectrum obstructed rapidly tends toward the red end, until a mica is found which affects the photographic plate in a narrowed band around the line B, the exposure being from ten to twenty times as long as would be required for this

part of the spectrum to impress itself, were no mica to intervene. To increase the thickness of the dark mica soon obstructs all rays in the red visible to the eye.

Examined by the thermometric apparatus, a thermopile, and in the radiometer balance—described below—the dark micas which allow any trace of visible rays to pass are strongly diathermic. As the thickness of mica increases, the deflection of the index spot of light gets less and less, until there is very little action at all. Judging from analogy it is most probable that as the thickness increases the heat rays are cut off in regular gradation from a certain line B in the red to the longest rays of heat which will affect the radiometer balance.

This is only a hypothesis and does not take into account the possibility of there being dark bands in the infra-red portion of the heat spectrum. Still the hypothesis as a working tool has been of considerable use, and has helped me to select dark mica obscuring media—giving good and concordant results.

Were I to take at random a piece of black mica which would cut off all the rays visible to the eye, and not allow any red and ultra-red rays to pass that would affect the panchromatic plate, I should have no certainty that the piece of mica would not cut off some of the heat rays which the glass transmitted. If, on the other hand, I select a piece that allows the red rays near certain lines B and C to pass some of the action on the radiometer balance would be due to the luminous red rays, and it is not advisable to entirely cut these off as the residual color thereby might be affected.

The Plan Ultimately Adopted

THE plan ultimately adopted was gradually to increase the thickness of the mica until the photo-spectrograph showed that the visible red had just ceased to affect the plate. After experimenting on some hundred kinds and thicknesses of brown and black mica I succeeded in getting a piece which appeared to satisfy all requirements; the examination of the different kinds of glass made in my laboratory during the last four years has been carried on by help of this specimen.

Next month I will continue the discussion.



Amoptico

Reg. in U. S. Pat. Off.

Vol. IV October, 1915 No. 7

Published Monthly by
American Optical Company

1833-1915

Channing M. Wells Albert B. Wells
President Treasurer

J. Cheney Wells
Vice-President and Secretary

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Southbridge, Massachusetts, U. S. A.



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American Optical Company, Limited
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Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.

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Round Eyes or Ovals

IT has been interesting to watch
the general and gradual evolu-
tion of the eye size. Many of
us can remember that it was not so
long ago when the No. 1, 2 and 3



New Hand Edger for
House Organ Grinders

eyes were in univer-
sal use and, in fact,
until the publica-
tion of the AOCO
general catalogue
two years ago, the
"SS" Bridge sys-
tem of measure-
ments for p.d. was
based on No. 1 eye as a standard in
frames. The advent of rimless
glasses marked the coming of
larger lenses, and because the old
system of numbering eyes pro-
gressed inversely as their sizes, it
was necessary to designate the
next larger size as o eye, which
was made the standard size for
measurements in f.p. fitting sets.
It became so easy to modify sizes
in rimless work that larger stand-
ards quickly followed until the
ovals reached oooo and Jumbo.

Then came the round eye, which
started around 35 mm. and today

it is a not uncommon thing to sell
55 mm. round lenses in automobile
glasses.

The wide demand for zylonite
frames and varsity eyeglasses has
developed a general desire for
round eyes. Now we find many
optometrists advocating round
lenses in preference to ovals in
their daily work. Aesthetically
we like it, and while some have
said that round eyes lend an owl-
like expression, we do not agree
with them, providing intelligent
judgment is used in determining
the correct size.



A Word from the Public

New York City,

August 20, 1915.

Gentlemen:—The writer has been using
your Sir William Crookes glasses for the
past few months, and wishes to state that
mere words cannot express his great appre-
ciation of the benefit which he has derived
from them.

Owing to the fact that I have suffered
from near-sightedness for about twenty-
five years, it was absolutely necessary that
I should obtain such glasses as would enable
me to see under electric lights, and eliminate
the effect which the sunlight had on my
eyes while in that condition. As, during
business hours especially, I was compelled
to the necessity of the constant use of my
eyes under electric light, I had seen some
of the greatest specialists in the country,
without success. Finally, I related my case
to Mr. B. M. Levoy, who was filling a
prescription for me at the time from Dr.
Kinney, and Mr. Levoy immediately
mentioned the merits of your glasses, and
recommended a trial. I followed his advice
at once, and was more than gratified with
the results.

Without exaggeration, it seemed as if
new sight had been granted to me, and I
can now work under electric light without
any difficulty. The relief they give to the
eyes from the strain of constant use under
trying conditions, is really wonderful, and
the glare of the sun no longer affects me in
the way it did before. Ever since that
memorable day of their trial I have been
deeply grateful to your company. I would
not be without your Sir William Crookes
glasses under any circumstances, and am
continuing their use with the greatest
satisfaction.

Have repeatedly expressed my apprecia-
tion to Mr. Levoy, who suggested that I
convey my thanks to you, which I do, most
heartily.—GEORGE J. KASKEL.



A Cheery Word from President Todd

Hartford, Conn.,

August 20, 1915.

Gentlemen:—Have just returned home
from Frisco and whilst there called at your

office and though your manager Mr.
Smalley was sick, his assistants certainly
did their level best to make one feel at
home. I appreciate their many courtesies.

I have just come across the July number
of AMOPTICO telling of our visit and would
feel obliged if you could send me a few
copies.

I was amused and interested to find how
many knew about our visit to your great
factories and both in U. S. and Canada
they were asking about your plant and some
of the products, especially the new kinds
such as Crookes Lenses, Noviol, KeeLocK,
etc. Yours very truly—WILLIAM S. TODD.
Pres. Conn. State Optical Society.



An Optical Pioneer

Louisville, Ky.,

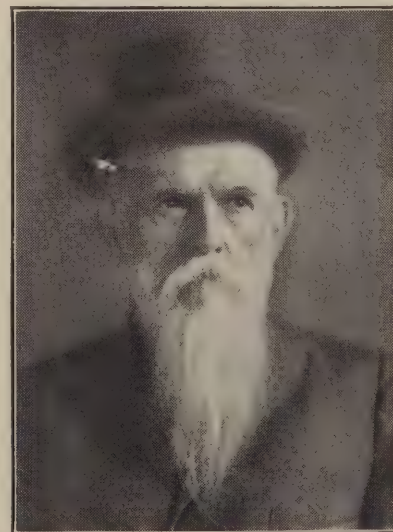
August 13, 1915.

Gentlemen:—I am in receipt of
yours of 11th. I get your AMOP-
TICO MAGAZINE for which I am
obliged. This photo was taken on
my 75th birthday. I have never
used tobacco or liquor in any form.
I was the first man to issue an
illustrated catalogue of watches
and jewelry in the world, in 1858.
I tested eyes and sold spectacles
by mail in 1864. I was your first
customer in Louisville, Ky.

I have worn Pebble Spectacles
for 30 years and do not need
spectacles to see at a distance.

I am rather proud of the record.

—J. B. BARNES.



J. B. Barnes



© AOCo Helps Bring People to Your Store

THE only business that can make money without advertising is the United States Mint.

But the help that advertising contributes depends upon the character of the advertising.

It is difficult for the individual optometrist or optician to prepare good advertising matter because of the high initial cost.

We can afford expensive drawings, fine printing and careful press work because we are working for thousands of dealers instead of one.

We can also maintain a large department of advertising specialists.

This service provides exceptional helps to dealers—some free, some at a trifling cost, none at a prohibitive price.

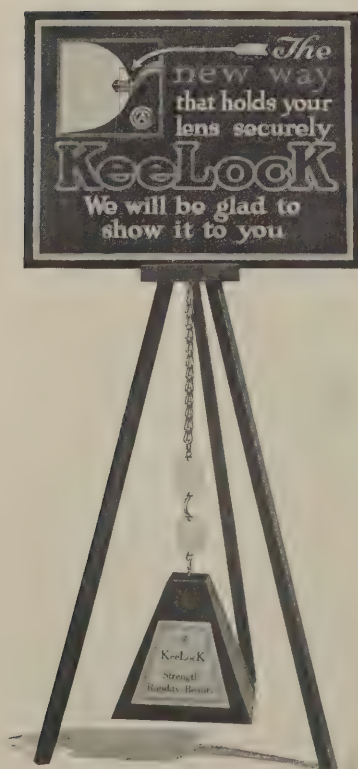
We Offer a Variety of Helps

It takes all kinds of people to make a world—or an optician's trade. If people all bought from the same impulse it might be possible to figure out the kind of optical advertising that appealed to all and use it exclusively. But so long as people are influenced in buying by different methods, all good methods must be employed.

These pages therefore, offer a variety of helps for your use rather than for your selection.

By a consistent use, therefore, of the great variety of dealers' helps we offer you, you should soon be feeling its effect on your business. We aim to create the buying impulse in all who see your store.

The New Tripod KeeLock Display



2D1 Complete, \$1.50

Here is a KeeLock tripod window display, 2D1 complete for \$1.50, that will do more than sell the goods. It will advertise your store as headquarters for the very latest inventions of up-to-date optical science. This is a striking display fixture that should be shown in your window. With window card, tripod, weight and KeeLock frame it is a splendid business getter. Later we will dress a KeeLock window for you.

A New Christmas Gift Folder

A Christmas folder No. 17F8 in buff, orange and black, telling your patients of the desirable Christmas gifts you have to sell is our latest innovation.

In it are illustrated eyeglasses, spectacles cases, Amoptoscopes, and everything your customer wants.

Charge, including free imprint, \$2.00 per thousand. In quantities of 250, \$0.50; 500, \$1.00; 750, \$1.50. No orders for less than 250.



Window Card, No. 2W1, free

This KeeLock counter or window card No. 2W1 is a real salesman. It talks to the point and sells the goods.



AOCo Goods Turn Callers Into Customers (A)



A practical Xmas Gift in Silver

A dainty solid silver case for glasses. Can you imagine anything more appropriate or more useful? Something that will last years and years. The only real way to buy gifts is to consider their utility. In optical things we can make so many practical suggestions, no matter how little or how much you care to spend.

DEALER'S NAME AND ADDRESS

Fourth week—No. 11A

Dear Mother:—

John and I want you to select your own Christmas gift. A reading glass with the quality mark is our choice.

Sincerely,
Alice

Many of your dearest relations wear glasses. A sterling silver, plain or engraved, spectacle or eyeglass case would be a happy reminder of your affection at Christmas and for years afterwards. Optical gifts are all useful gifts, and ours is a veritable gift shop. We can show you many things that will suggest a solution to the gift problem, no matter how little or how much you care to pay. The quality mark is the AOCo mark on every pair of our reading glasses. A most appropriate Christmas gift. Come in and try them.

DEALER'S NAME AND ADDRESS

Third week—No. A58



Practical Xmas Optical Gifts

Useful gifts are appreciated most of all. Our shop, just before Christmas time, solves the perplexing problem of what to give.

Many useful things are here in wide variety. Might we suggest, for instance: A new pair of glasses for father or mother. Automobile spectacles for the friend who drives. A dainty little gold eyeglass chain. A reading glass for the older folks. Then there are Lorgnettes, Aluminum, Silver and fancy leather cases, magnifiers, thermometers and many other useful Christmas suggestions.

DEALER'S NAME AND ADDRESS

Second week—No. A57



ULTEX ONEPIECE BIFOCAL

TRADE MARK REG. UNI-BIFO (LUXE)

Look up—look down; the distant scene becomes sharp and distinct, the printed page clear and easy to read. Such is the comfort and helpfulness of ULTEX Onepiece BIFOCAL Glasses. Distinctly the best for the man or woman who needs two kinds of vision.

DEALER'S NAME AND ADDRESS

First week—No. 21A

One Ad for Each Week in November

There's nothing succeeds like successful newspaper advertising. Here's a series of quick-acting, seasonal ads that will give a big boost to your holiday sales. Go after the Xmas business in your local papers.

Get your weekly Christmas goods ads in your local paper right next to the "Local News" columns. Make one big drive with the above ads for the Christmas business that should be yours. Prosperous times are with us.

Trade Fits-U Tags for Advertising Helps

Fits-U tags will buy advertising matter. Advertising matter will sell Fits-U's. Sort of perpetual motion with perpetual profits.

Save your tags and get the Model Man, the Glad Hand, individual stationery, circulars or any other material for which we make a charge. Twelve Fits-U Tags will buy 25 cents' worth. Send tags to Advertising Department for full amounts only.



No. 5W22 Free

This unique free metal sign—No. 5W22—has a sharp eye for new business. It knows just how to attract passers—by to your store, and it wants to work for you. Get your customers to meet one another "At the Sign of the Fits-U." Make it your local slogan!

Lens Cleaner Week Great Success with Abe L. Dealer

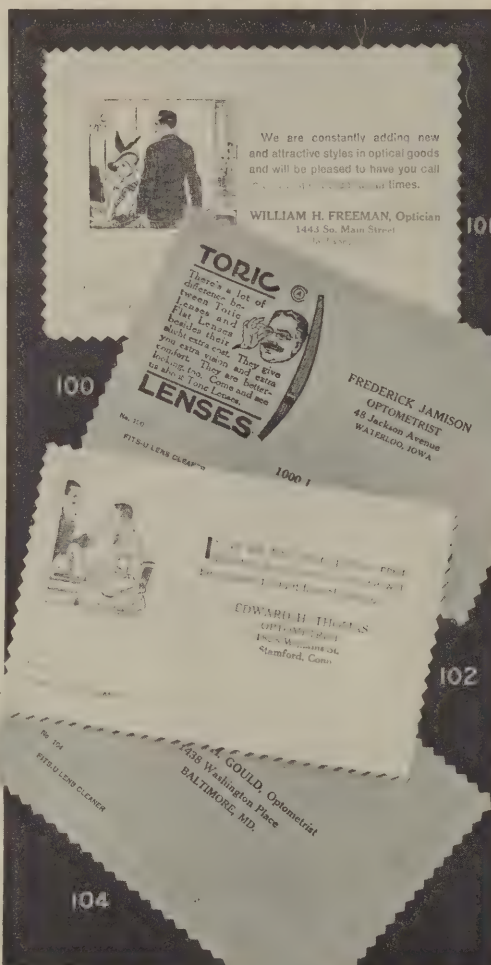
LENS Cleaner Week has come and gone. Mr. Abe L. Dealer, pulling out his glasses and settling back for an hour's enjoyment with September AMOPTICO found a neat-but-not-gaudy little lens cleaner stuck right at hand between the pages of his Favorite Magazine.

It shall be chronicled here how twenty thousand of him flourished a good right arm and forthwith tried out the new cloth on his Favorite Glasses.

Some of him was satisfied. Others of him "pulled" it, held it up to the light, shut his eyes and felt of it, and repeated. And most of him said it Did the Work for the lenses Shone Bright.

As we pointed out in our original announcement, the new cloth is woven to hold the maximum amount of cleaning compound without sacrificing the strength, looks or "feel" of the cloth.

If you've examined these cleaners you have doubtless noticed no perceptible difference in texture between them and the finest woven cleaners on the market. If you've "pulled" them you've discovered them well saturated with fine powdery compound, however, and when you tried them on your lenses you've felt that resistance, or *bite* that tells you the compound is taking hold and *doing the work*. A subsequent glance at the lens has shown you how clean and brilliantly the new lens cleaner has done its work without scratching. These are the facts about the Fits-U cleaners—they *do the work*, look the part and advertise the dealer behind them.



There is a certain tendency, we think, to get away from the essentials in lens cleaners and split hairs about texture, looks, feel, and trivial details, ignoring the prime question of whether the cleaner *works* or not. For instance, the dealer takes up a cleaner, snaps it and if a shower of powder doesn't whiten up his nice blue suit he condemns it on the spot. Some salesman once told that dealer his cleaner was best because it was full of mysterious cleaning powder. Pooh!—

and the air was full of it. Another told the dealer that his cleaner was of finest texture, another that his had "pinked" edges, etc., etc. Some cleaners had no cleaning compound at all in them.

But when you sit down to think it over what does it all amount to? Simply competition to get the dealers' business and by hair splitting.

A cloth of excellent texture, a compound scientifically made and a neatly printed lens cleaner, each in well balanced proportion, *will do the work* and that's the kind we're standing behind. The public does not stop to analyze these fine points, nor is there any valid reason why it should as long as the cleaner *does the work* and your shop is advertised. If we were the dealer we would pick out a good serviceable cloth at a fair price—one that will do the work—for life is too short for a cleaner just like anybody else. We've started in the lens cleaner

business just late enough to avoid these trivialities and our Fits-U pink or blue cleaners at \$7.50 per thousand reflect a common sense attitude. No orders are accepted for less than 500 but we give away free one large cleaner—11½ x 15½ inches—for the fitting table.

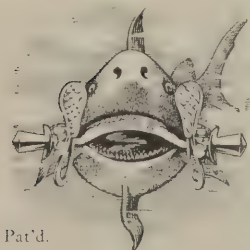
Let the Commodore Try You on a Sharkskin KeeLock

THE Commodore hove to, dropped anchor and came up with the bit in his teeth, all wet.

"Hello, Finny," says I, "whaddye got?" "Something great," sez he, "a KeeLock Sharkgrip!" Well, we tacks and jibes with compliments for a few minutes 'n then I sez, "strikes me you're gettin' a lotta new fangled contraptions. Better reef a bit, eh?" he spouted. "But I'm stronger'n

I ever was 'cause I've got *extra large new pads* that grip so steady and strong they've given me a *new light spring*; and active? Say, I was just coming in to get stocked up again when I spied you. You know why I'm active, don't you? Because they've discovered they can put my sharkskin on regular Fits-U guards; and what's more they've found I'll stick when all other mountings fail to fit.

"Well, if you've got all you say, Commodore—the *strongest grip with the lightest spring pressure*, a new light spring, larger sharkskin pads and a bend for peculiar noses—start right now, Finny, for 'I hear them calling you.'" Regular Sharkgrip 1/10-12K mounting \$8.50 per dozen; in 10K, \$18.00 per dozen, while Sharkskin guards are supplied on any regular Fits-U mounting, including KeeLockK, at \$1.00 per dozen extra.



Regular Sharkgrip Mtg.



Large Sharkskin Pads on Fits-U Mtg.

Why You Have Found AOCo Gold-Filled Superior

WITH due regard to the humble spirit in which we say it, we make bold to state that, prices being equal, AOCo goods will sell ahead of competition every time. If we went further and said that even prices offer no material obstacle in many instances, we would still be telling the truth and not over-rating our goods. Which indicates, by the way, that a standard set and adhered to will eventually make the deep and abiding impression our gold-filled lines have accomplished.

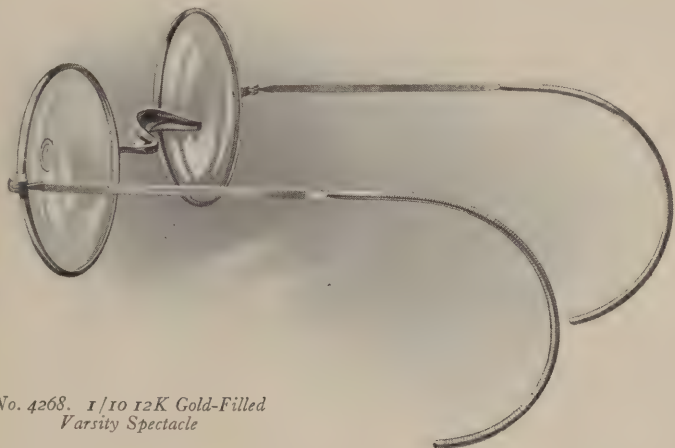
So while you're dividing your allegiance between two flags, let us talk about these gold-filled Flag lines and show you one of their number—the popular 4268 1/10 12K Varsity Spectacle.

Now, unless the dealer admits to himself that he's a poor salesman, we know perfectly well he can sell our best gold-filled line against any competition. If we can satisfy him on price, quality and profits, he can satisfy his customer, even if he should sit down and say "Jones is selling them 50c cheaper across the

street." If you're morally sure your line's the best, you can sell it against any competition, within reasonable price limits, of course. If we can keep the dealer from over-stocking, which means cut prices eventually, and convince him of the truth of this daily insistence on quality, we have then done him a real service by which we both profit and the customer gets the best satisfaction.

We are much more concerned over the dealer's interest, which of course is reflected in our own too, than we are about haggling as to who's got the "Best, Unsurpassed, Incomparable, etc., etc., gold-filled lines in the

World." We care nothing about making extravagant claims, preferring to let our goods stand on merit and your approval. Our lines are held to a standard and stand up in daily wear; they deserve the price you ask for them. You all know that. Try out this No. 4268 Varsity Spectacle and see. In 1/10 12K, 5 mm, flat bridge, semi-flat and heavy c. c. temples, \$14.00 per dozen; with cylinder bridge \$15.00.



No. 4268. 1/10 12K Gold-Filled Varsity Spectacle

A Strange Happening

From the London "Institute Journal and Optometrist"

During the recent air raid in the Eastern Counties a lady wearing a Fits-U clip was walking along a street when a bomb exploded some little distance away. The force of the explosion broke off the two lenses, leaving the clip on her nose. The explanation is that she met the rush of air caused by the explosion, the pressure from which acted simultaneously on both lenses with the nose as a fulcrum. It may be added that the lenses were of average thickness.

He Tried Them on Himself

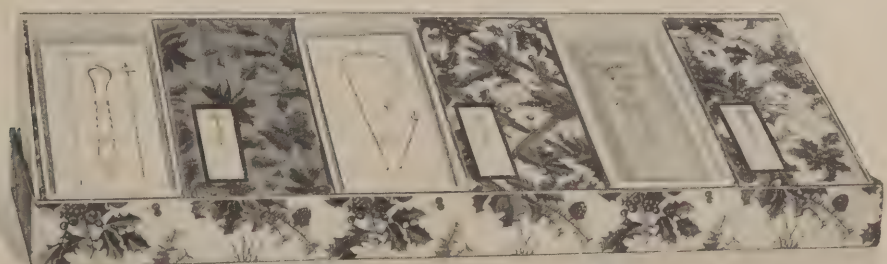
Nashville, Tenn., June 1, 1915.

Gentlemen:—Crookes lenses sent me have proven very satisfactory so far, the short time I have worn them.

Spend my Sundays out doors and, heretofore, almost always have a headache before the day is over. Since wearing these new lenses have not been troubled with those headaches. Can read more and longer at a time also.—E. S. GETZMAN.

Have You Put in This Christmas Assortment?

\$3.50
the Set



\$3.50
the Set

Complete—6 hairpin chains, 3 cable earloop chains, 3 wire earloop chains and box from your jobber



NOTE: This is the sixth of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff will endeavor to make these articles simple and interesting to everybody from month to month.

The Invisible Spectrum

(Continued)

LAST month we discussed eye protection glasses taking the spectral colors from red to violet. This time we will discuss those glasses of a mixed color, which may be described as tinted.

Smoke was one of the earliest glasses of this kind made and has been much worn. Scientific tests, however, have proved that most samples of smoke give a very small sense of security. When wearing them they appear to cut down the light to a safe degree, while on examining the light which gets through them it is found that they cut off the best and most useful part of the spectrum and let through the most undesirable colors. Unfortunately, if one removes the bright yellow and green the pupil at once opens up to receive the red, blue and violet and, consequently, the ultra violet and heat rays have a better chance to get through. In this way many people have suffered from wearing dark smoke glass in looking at bright sources of heat and light. Amethyst is another tinted glass, a sort of mixture of red and violet. The idea of using this appears to have originated in the fact that old windows had been changed to this tint by the action of ultra violet light as explained in a previous article. Consequently these old windows were cut up and sold as were also glasses artificially colored by manganese, which gives this tint.

What Crookes Lenses Demonstrate

AGAIN it can easily be demonstrated how ineffective such glasses are in absorbing ultra-violet. In light tints they are no better than white glass.

As Sir William Crookes' paper describing his researches into this subject is being published in instalments elsewhere in this magazine, it is unnecessary for me here to do more than just dwell on the fact that it took even his great genius four years to decide which was the most effective and pleasant combination of tints to look at and look through.

Both the "A" and "B" shades of Sir William Crookes' glass will most positively cut out all the ultra-violet radiations that are known to be harmful to the eye. They will do this too without altering colors and in addition the light shade is indistinguishable from white glass when worn on the face.

It might be thought that a glass through which one could see objects or colors the same as through white glass could not be noticeably beneficial; but the author has constantly worn these glasses at the "movies" and while working around the mercury and iron arc lamps with a feeling of complete comfort and security.

The numerous appreciative letters that have been received both

by the company and the author show most conclusively the benefits of this glass.

A Recent Interview with Sir William

IN a recent interview the author had with Sir William Crookes the latter most emphatically expressed his opinion that the two shades of his glass would in the near future entirely replace white glass for both spectacle and eyeglass wear.

Sir William Crookes has made numerous other glasses on a small scale in the laboratory. Many of them possess valuable properties but they have not yet been manufactured on a commercial scale. None of them, however, possess so many good features as the ones now marketed.

Tinted Glasses for Constant Wear

SIR WILLIAM CROOKES has stated in his paper that it is most pleasant to wear grey or neutral tinted glasses. This is because our eyes have become accustomed to the spectral colors obtained from sunlight, and any alteration in these colors—that is so noticeable with the cheaper forms of colored glasses now on the market—is not nearly so comfortable to the wearer as a neutral tint. Smoke and Amethyst are more or less neutral tinted glasses, but they are both ineffective in absorbing ultra-violet so that the only neutral one left for wear is the Crookes glass.

Let it be borne in mind that this only applies to glasses for constant wear to replace white glass. If one wants to wear a ray filter in order to give keener vision then one must wear colored glass that will alter colors.

It has been noticed, as mentioned in a previous article, that people who have worked around light giving peculiar spectra—notably the mercury arc lamp—have often become color blind. In this case the mercury arc lamp is very deficient in red, but extremely brilliant in yellow, green, blue and violet. Now, as most of the colored glasses worn today, such as amber, Fieuzal, etc., cut out the violet and some of the blue it seems obvious that if persons wore these glasses for a considerable length of time they would be likely to become color blind to blue and violet, so this is another very strong reason why these colored glasses should not be prescribed for general wear.

As Sir William Crookes' glass is effective in cutting out the ultra-violet and yet will not alter the color perception of the wearer, it is obviously the safe one to prescribe for purposes of general wear.

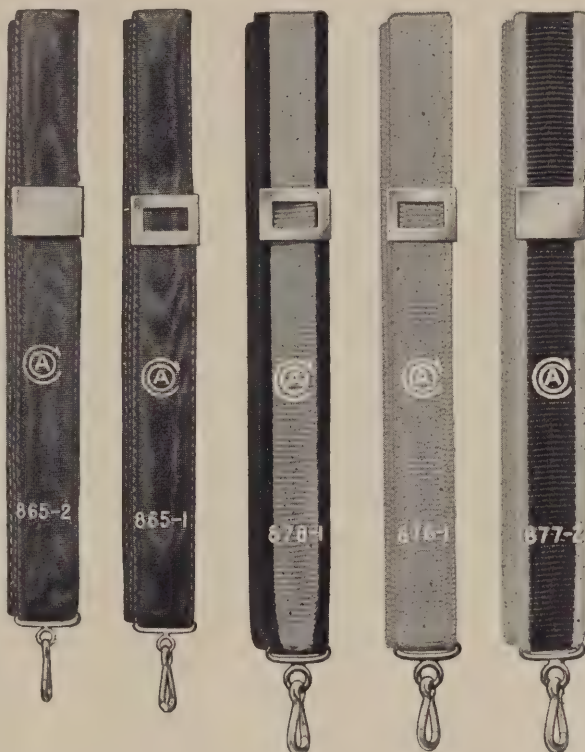
It is also interesting to note that in this commercial age when many men of science are going more and more after the dollars that Sir William Crookes, far from making any money from his researches, was the poorer by some five figures at the end. His unselfish services have been noted in these pages in previous issues.—H. T. R.

Let's Go After This Christmas Business in Good Style

WE overheard an optometrist one day saying, "Christmas doesn't amount to much in the optical trade, anyway." Well there's a grain of truth in what he said, even if he *had* been soured because the water pipes froze. He said, "People don't buy glasses when they're buying Christmas presents for others."

This sounds excellent to everybody but you and me, until we stop to wonder why these people, when they're buying presents for others, don't buy optical presents. Is there any reason why this great unfortunate eyeglass wearing public we're so sorry for—'cause it earns us our living—cannot be sold the very goods for Christmas presents that it most needs in daily life?

Let us have an optical Christmas for *ourselves* for a change. Instead of looking in other people's windows like the hungry waif, wishing *we* had some of the fine business inside, why not rise in our righteous indignation and dress up our own little window full of Christmas suggestions? And why not include in it gold and silver Varsitys with our snappy Varsity ribbons for the "young bloods" of the family? Why not make them up in ordinary lenses or in Crookes or in Onepiece or Kryptok bifocals? What's to hinder our putting in beautiful mottled amber, black, shell, or white zyloware readers for the old folks? Can't we display our motorglasses on Santa Claus and protect the whole family against snow blindness?



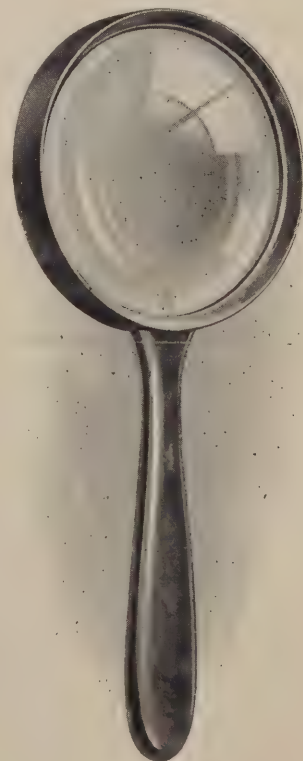
The Varsity Ribbon's Dressy with Evening Clothes

There's a wealth of ideas for little Christmas window displays you can work out if you'll look over your stock. Don't crowd too much into your window each week, but make it effective and simple and put in some neat hand-lettered cards reminding them that the Christmas spirit should begin to effervesce about now. "Get your Christmas shopping done early" is a good window slogan.

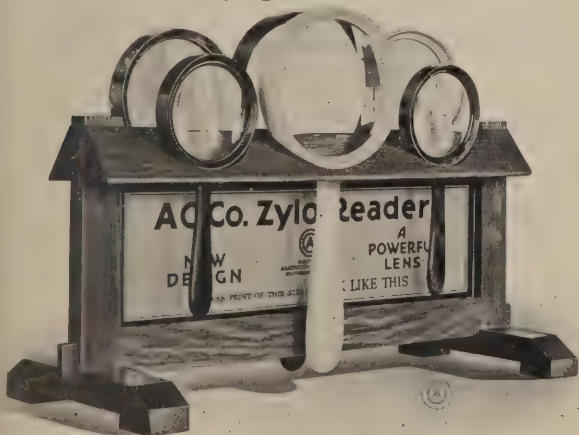
As far as your inside sales go, begin now to suggest to each customer a present of a pair of glasses to some friend or relative. Start the thought in their minds now that grandmother would appreciate a present of a nice pair of reading glasses for Christmas. Tell them she can come in any time after Christmas and have them fitted to her prescription.

In short let us coöperate by every means to boost our optical sales the coming holiday season. Next month we shall offer you several Christmas sales helps in the shape of folders, window cards, window displays. In the meantime start the ball rolling by looking over our Christmas lines and suggesting presents to your customers.

Hallowe'en and Thanksgiving are now due. Most every locality has corn husks and pumpkins handy. Why not start a window display with these materials to get the public interested in your shop? Taking full and consistent advantage of these opportunities is what is going to bring you success and profits this fall. In this issue we are showing our best lines and dealers' helps. You will find them necessary and valuable assets. Let us hear from you.

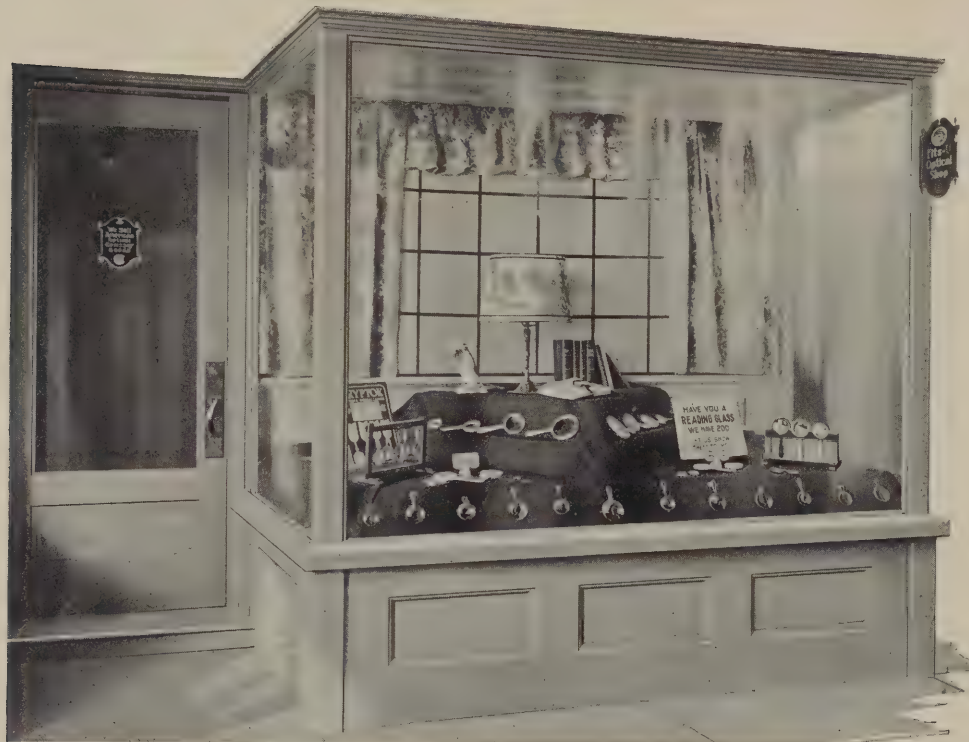


Mottled Amber



Effective Window Stand, \$1.25 without Readers

At the
Sign of the Fits-U



THIS window suggestion to the dealer for an October display is the way we worked out our own idea. You may be able to better it by improving on the general suggestion of the skeleton window below. Get your window ready now for Fall business. We'll have one window each month for you from now on. It'll cost you little and profit you much to follow these suggestions. Make your store the local headquarters for snappy window displays and Fits-U goods.

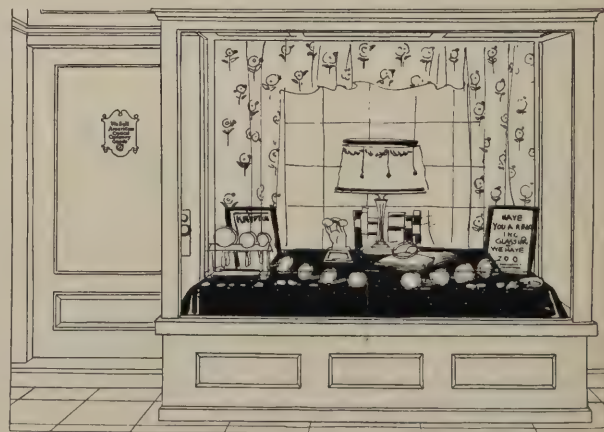
A Snappy Zylo Readers Window Display

BEGINNING with this month's issue showing a display of Zylo readers for October, we shall offer these simple and economical window display suggestions to the dealer every month in Amoptico. They will be illustrated in two ways: 1st, by a rough drawing which will give a skeleton suggestion to the dealer who'd rather work out the details of his display himself and in his own way; 2dly, by a photo illustrating our own conception of the skeleton window. This can be copied faithfully by the dealer.

These monthly windows, if followed regularly, will have a splendid effect on your sales and local prestige and we hope you will let us take hold with you to obtain it. Start now with this October window.

The materials used in our window are easily obtainable and economical. *Background*—figured cretonne draperies at 25 cents per yard, while the panel effect was achieved by sticking black strips crossways on either white cardboard or cheesecloth. *Foreground*—the lamp shade was made of cardboard sewed together into a cylinder and covered with cretonne. The lamp should be lighted at night. The centre was built up to suggest a table top and can be covered with black, blue or dark red velvet or plush. An open book with a Zylo

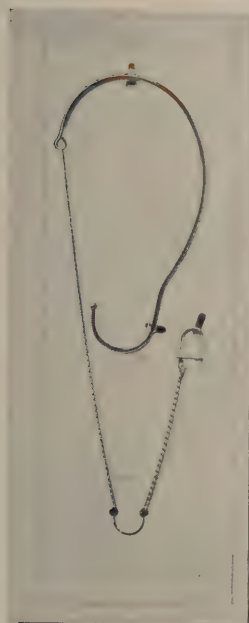
Reader on it and several books and readers near-by suggests the main thought of the display—someone reading with AOCo Zylo Readers. At right and left grouped around this central scheme are Amoptiscope and Zylo stands, and assorted readers lying loose. An AOCo Glad Hand, AO Kryptok window card and hand lettered card calling attention to the Readers complete the display. The window should be run for about one or two weeks.



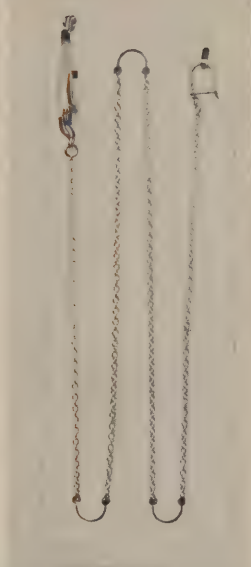
Skeleton Outline Suggestion

Five Popular

Chain Styles

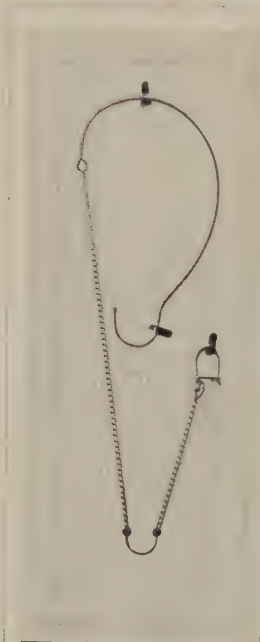


Excellent Selling Style. Earloop, rimless snap. In gold No. 81¼-10/14; gold-filled 381-10/14.

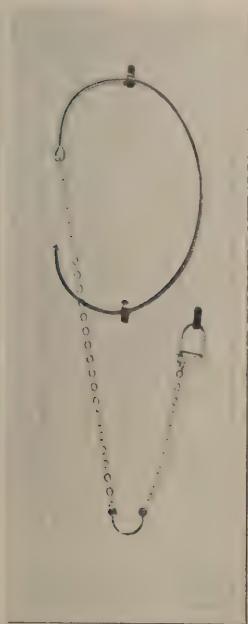


Hook Chain

Very popular, particularly abroad. Illustration shows cable chain. In gold No. 80¼S; gold-filled 380S.



The Invisible Earloop Style. Ill. shows curved chain. In gold No. 81¼-14; gold-filled 381-14.



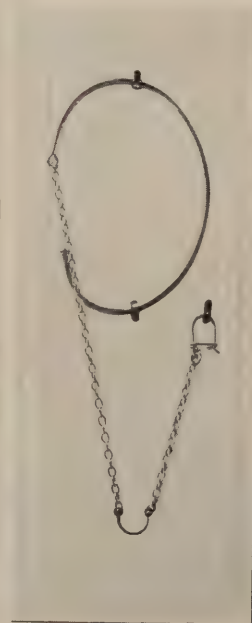
Flattened Link Earloop. Twenty links to the inch. In gold No. 90¼-10; gold-filled 392-10.

OUT of our varied assortment of chain styles we have selected five which have proved to be very popular here and abroad.

Four of these are earloops and one is a hook chain. Each style is made up to your choice in cable, curved or flattened links with the rimless snap. Your choice of link sizes in the above styles may range from 16 to 24 links to the inch.

This, then, is the combination of styles that appeals strongly to the overseas people who wear AO brand goods. It reflects faithfully their accumulated ideas of what they want because we are in an excellent position through our age and experience to distinguish between a permanent style and a passing whim, and these styles are permanent chain staples offering a good turnover as the strongest probability.

We have secured permanent customers on our chain lines, because we have put permanent gold and gold-filled stock into them. We make no gold-plated chains. Every chain that leaves here has AO wearing quality and finish, and assays strictly to 1/10 12K, 1/10 14K or solid gold standards. Look over these styles and try them out.



Large Cable Link Style. Sixteen links to the inch. In gold No. 100¼-10; gold-filled 460-10.

The Intrepid Hunter—

finds both protection and brilliant marksmanship in NOVIOL protection lenses.

ALL sportsmen, when the sun's glare curbs their activities, will turn to that glass which best filters out glare and projects distant objects into startling relief.

MOTORISTS, golfers, poloists, riflemen, and yachtsmen—all should be told of NOVIOL, the sporting glass de luxe.

Prescribe NOVIOL in Ultex Onepiece Bifocals



Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

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Vol. IV

November, 1915

No. 8

OFFICE
-MPS-MAOI



The Wear-and-Tear Frame for Children is Solid Gold
It stands up under abuse



*Seven distinctive
Motorglass Styles
and
15 numbers*



*A Christmas Set of
Seven Best Sellers
in
15 individual boxes*

Motorglasses a Year Round Necessity—

WHEN someone remarked that the sale for motor-glasses had become a year-'round affair the head of the department sat down and looked over his colored set sales sheets.

Glancing along the columns he picked the three best sellers in the entire moderate-priced colored set line—motorglasses and sun glasses for all-around wear.

Then he came into the advertising department on the jump! "Quick!" says he, "I've got an idea nobody has ever thought of before,—a Xmas line."

After congratulations were over it turned out he'd discovered that seven different styles of Roadster, Shelloid and Eclipse colored glasses made up in fifteen numbers and sold in one big

Christmas display box would captivate the Christmas shopper and bring him into your shop.

So we dressed up this combination in fifteen individual boxes and put them into one big counter display box. For variety and attractiveness we chose a heavy embossed Christmas paper in three handsome green and red designs.

In this set are two new R8050 Roadster Specials, two regular style Roadsters, two styles of our famous Shelloid and one style of Eclipse. Each style has a variety of eyeglasses and spectacle numbers, some in amber lenses and others in Fieuzal. The set, complete, includes one dozen spectacles and three eyeglasses and sells for \$5.25 complete. Conservatively figured you should be able to get at least \$10.75 for the set. It ought to sell itself with these attractive display boxes. Order from your jobber for the Christmas trade.

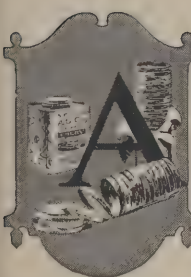
Immediate Delivery from Stock

Reg. U.S. PAT. Off.

Amoptico



The Evolution of An Ophthalmic Lens—II



LONG white structure suggesting the architect's delicate blending of utility and beauty sits outlined clearly against the brilliant autumn hills. This is Lensdale in fact and name with its close cropped lawns sloping gently away to the river, where the paneled windows and white columns cast thousands of mirrored reflections.

The visitor, crossing the rustic bridge and mounting the short rise over the hill from the main factory, is confronted with this masterpiece of landscape architecture and natural beauty. If he has traveled far, there inevitably arises a comparison between the manufacturing plants he has seen and the surroundings of this immaculate snow white building. He notes a remarkable contrast.

Unless his is a reflective nature it probably never occurs to him that before his eyes is another symbol of that word Quality. In the setting before him he perhaps does not consciously realize that here is tangible, visual evidence of a real passion for perfection translated by the owners into a great business success.

Through the 60,000 windows circulate light and air, which speed the making of the perfect lens. As far as the eye can see there are no unsightly objects; within, there is sunlight, warmth and working comfort. A certain external and internal harmony everywhere subtly expresses the resolve to surround quality goods with every natural and artificial advantage.

So under these inspiring influences our visitor enters the building. He passes into Superintend-

ent Hill's office, noting on his way the white walls and the clean grey floors. His journey then begins.

In the August issue we told of the evolution of the lens from the glass stores room through the grinding, polishing and moulding rooms to the loft, whence they started over the tramway to Lensdale.

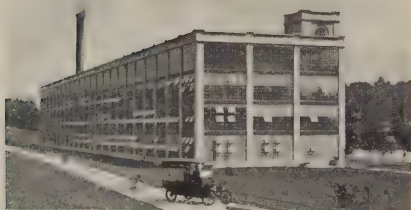
In this issue we take our visitor through Lensdale. As we pass along he never fails to note the perfect appointments and spic-and-span appearance of every room, even to the edging rooms where dirt would naturally be thought to collect. His appraising eye takes in the vast, open-air effect given by the countless windows. Everything is in white and greys, colors best adapted to lens manufacture.

As we said in a previous issue, the stock used for Primex and Centex lenses is a glass of remarkable clearness, entirely free from "seeds," "striae," bubbles and similar defects of common occurrence in glass making. It is the output of great glass works where modern facilities and ideal conditions make possible the production of glass of unvarying index of refraction, uniform density and maximum mechanical hardness.

While the bulk of the demand is for spectacle lenses employing this white glass, colored glass lenses are now largely called for, while special conditions require lenses made of glass having certain other physical properties. Sir William Crookes, Noviol, Fieuzal, Luxfel, smoke and amber are varieties much in demand as a relief to the eyes from the sun's glare in summer, and from the blinding effect of snow in winter. Glass of this character is classified according to well-defined standards of shade



Supt. Hill looking over a Crookes blank



and thickness, and shades from light to dark being identified by numbers running from absorptions A to D. Much of this glass is supplied in the plano form, but the demand for focused

cylinder or spherocylinder, the axis is indicated by two additional dots of ink, one on either side of the center. Where lenses are ordered uncut, this is the final operation, their focus and accuracy of curvature having previously been determined by inspection. They are then placed in envelopes or packages bearing a description of the lens, its class, focus, thickness and similar necessary information. Lenses delivered in this form constitute a substantial percentage of the total output of the Lensdale plant.

Focusing Section

In the case of uncut lenses, too, their focus is inspected by lens measures and a focusing box. The lens measure is like a watch, while the focusing box is an electric device. The focusing box is, as its name implies, a box-like arrangement. It consists of a long covered box containing at one end an electric light and a flexible scale graduated in fractions of a diopter carrying on one end a target. The lens to be focused is rigidly interposed between the light and the target.

lenses of colored glass is constantly on the increase, particularly in Sir William Crookes, which is made in Ultex Onepiece and Kryptoks, and Noviol, which is made in the Ultex Onepiece bifocal.

In the preceding issue of Amoptico, we mentioned the various operations involved in the manufacture of lenses from the receipt of the raw material, or glass disc, up to the completion of the grinding and polishing processes. These, in brief, are: gauging for thickness, blocking, or sticking the lenses to the metal blocks that are to hold them while being ground and polished; grinding, polishing and washing, a careful inspection following each stage.

Our Trip Through Lensdale

Ascending the stairs in the white cement building, we now follow the course of the lens after it is received over the tramway from the grinding room.

We find ourselves in a room one hundred yards long arranged in numerous sections.

LENSDALE RE-INSPECTION OF FINISHED WORK						
Week End 1915	Menscus		Remarks	Tones		Remarks
	Pieces	% Centex		Pieces	% Centex	
Apr. 1	600	94	Mostly scratches, Very good	600	97	Excellent Grinding scratches
" 8	600	96	Scratches, Very Good	600	96	Excellent, Grind scratches
" 15	600	96	Scratches, Very good	600	95	Excellent, Slight scratches
" 22	600	97	Slight scratches, Fine	600	97	Excellent, Little abuse
May 6	600	97	Very good, Grinding scratches	600	97	Excellent
" 13	600	97	Excellent, Slight scratches	600	96	Light dips, Excellent
" 20	600	97	Excellent	600	98	Excellent
" 27	600	97	Excellent	600	94	Watch D up, Scratches
June 3	600	96	" " "	600	97	Very slight abuse
" 10	600	97	" " "	600	96	Impure stock, Scratches
" 17	600	97	Slight abuse, Excellent	600	96	Slight scratches, Excellent
" 24	600	95	" " Very good	600	96	Excellent

The latter is adjusted by moving to and from the lens until the image of the electric light filament shows maximum definition on the target. A glance downwards at the graduated scale below the lens gives the reading in dioptries. The electric light forming the incident ray is set at such a distance as to give parallel rays—the whole combination forming the most accurate known way of focusing spectacle lenses.

First Inspection for Surface

One of these looks like a series of polling booths. It is the initial Inspection Department, where a corps of nearly a hundred inspectors is kept steadily busy as the lenses arrive, examining them for surface. These inspectors, who keep track of every step in the various processes, must not alone be keen-eyed but must be experienced to a degree which enables them to detect the slightest flaw of any nature at a glance.

Our Battery of Axis Markers

Passing to the second section we stop before a long row of axis markers electrically lighted, with crossed hair lines on the frosted glass of the light. The operator, determining the correct cylinder axis, depresses a treadle which releases a mechanism; this raises a three-fingered mechanical device that deposits dots of ink on the lens. Extremely accurate machines and careful operators are required here likewise, in order to work with any degree of speed.

Spherical Lens Centering Section

A similar machine, of special construction, is employed in this section. A dot of ink is placed on the center of the lens, as noted above; in the case of a

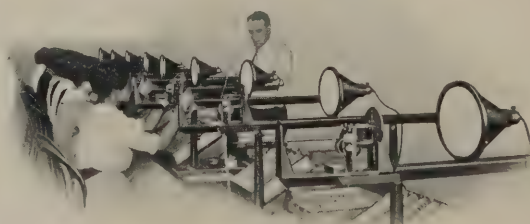
Gauging for thickness is done with another operation requiring care lest the instrument scratch or break the lens.

Packed in Envelopes

After these operations the uncut lenses are carefully packed and stored away in the stock room.

Interchangeable and Rimless

But interchangeable and rimless edge lenses must go through several additional processes. The first of these is cutting. This is done on machines of the type known as the AOCo Factory Standard Lens Cutting



One of our batteries of searchlight axis markers

Machine which is regularly shown in our catalogue. The lenses are taken one at a time and are held in the machine in such a position that the cutting is done with reference to the optical center of the lens, the cutting tool being a diamond. This is really a trimming process to remove the surplus glass, allowance being made for smoothing the lens to the proper bevel or edge, according to whether the lens is to be used in frames or rimless mountings.

They are then ready for the automatic edging machines in which the lenses are revolved against the face of a corundum grindstone which gives them exactly the proper shape and size and at the same time grinds a bevel or rimless edge, as required. In the case of rimless edge lenses, some of the lenses must be drilled, and, simple as it may appear, this is in reality one of the most difficult operations through which the lenses must pass. Unless handled properly, the otherwise completed lens may be ruined in this final stage. With care and patience, glass may be drilled with a steel point. However, nothing but a diamond drill is satisfactory for rapid factory work in the manufacture of lenses on a large scale. A special lubricating compound, *mélange*, is kept pouring over the drill point and lens, and the hole must be completed by alternately drilling toward the center from both sides. Attempting to drill through in one operation might result in shattering the lens.

As a final inspection, all AOC_o lenses are selected for quality, and in order that the quality designation may represent a certain definite standard in lens production, the American Optical Company has prescribed certain limits for center, thickness, focus and surface which all lenses must exceed to be classed with the first selection. These high standards with actual samples of lenses representing them are carefully recorded and kept on file. Lenses meeting these most exacting requirements are designated by the registered trademark, AOC_o Centex. Lenses for trial sets are sent to a special department after being edged, and are set into the trial rings.

Another department is devoted to the setting of lenses into frames and mountings, as may be called for on special orders.

Special Reinspection Quality Check

You have already read that after the work is received in the Inspection Department from the Grinding

Department the first operation is the inspection for surface, when the selection of Centex lenses, so far as surface quality is concerned, is made. As many other factors such as center, focus and thickness must be

combined with perfect surfaces to entitle a lens to enter the Centex class, it necessarily follows that the lens passes through several operations after surface inspection before it is finally enclosed in its envelope and started on its way to the lens storehouse. And during these operations it is liable to abuse which may disqualify it for Centex. To insure proper care by operators who handle the lenses after surface inspection, 300 pairs each of all styles of lenses—plano-cylinder torics, spherocylinder torics, flat cylinders, Meniscus and flat sphericals are taken at random from the enveloped lenses and those ready for the lens storehouse and reinspected. The defects found are noted and the operators responsible are shown the defects in the lenses and urged to greater care. This inspection is a comparatively recent innovation and has been wonderfully helpful in not only maintaining but improving the quality which has given AOC_o Centex lenses such an enviable reputation. The

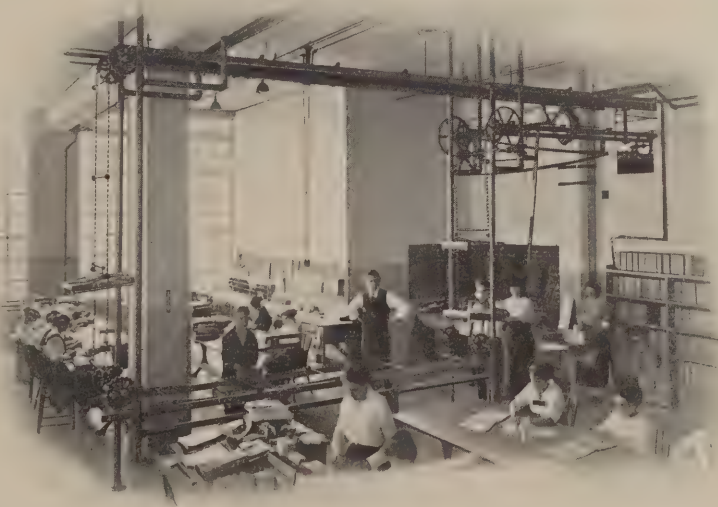
reinspection card illustrated on page 160 was taken at random from a series of such weekly cards. It shows that from 94 to 98% of the vast number of lenses examined were Centex quality. To the man who knows the difficulty of taking the perfect uncut lens and passing it through the various operations necessary to get it ready for his customer's use with a surface as perfect as when it started—to this man the precaution taken by the AOC_o to

ensure the surface quality of its Centex lens must be very impressive.

In line with the reinspection for surface quality is our checking or O.K.-ing for center, thickness and focus. Prior to sending the enveloped or wrapped lenses to the lens storehouse they pass through



"Over the bridge to Lensdale"



*The end of the journey
Lenses from stock arriving by tramway at shipping room*

"The Effect of Platinum at the Price of Gold"

THE Twin Six of our Solid Gold lines is here at last!

A new line of platinumlike, solid gold has burst upon the firmament. It shall henceforth be known as **AO WHITE SOLID GOLD; 14K solid gold** throughout with a pure white ingrain color.

"Here, you are, boys," says Superintendent Pitt Herbert in a matter-of-fact way, "This is our newest gem—pure White Solid Gold."

"Looks like plain silver to me, Pitt," said one incautious youth. "What is it silver plate or filled gold?" That got Pitt good and proper. "No, sir, pure white, pure 14K gold throughout—a solid gold with a platinum appearance," he articulated.

"If you were to take that frame and cut it at any point it would show white clear through. If you assay it, it will show 14K solid gold. It carries the

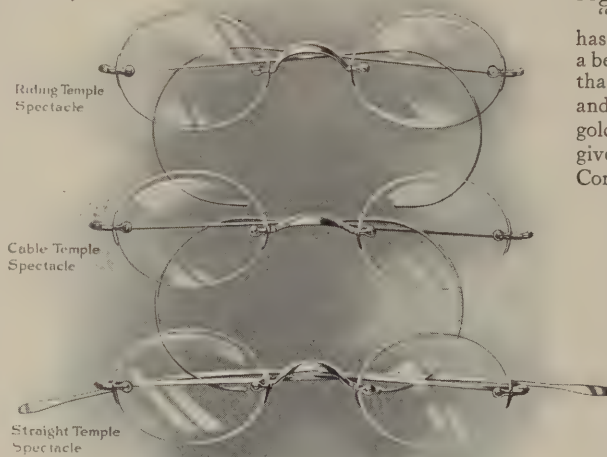
same amount of solid gold and wearing qualities, finish and so on as our regular gold 14K line.

"It's not only superior to silver, but has advantages over platinum. It has a better temper and brighter appearance than silver and a finer quality, finish and stiffness. The blending of solid gold with our special platinumlike alloy gives it these advantages over silver.

Compared to platinum, our White Gold is about one-third the cost and far better as to temper, not being so brittle. It is also non-tarnishable. White gold carries the effect of platinum at the price of gold. Never has it been made for spectacles before.

The call for spectacles and eyeglasses in White Gold comes from a numerous lay and religious public that wants gold but dislikes its color. Many people of wealth and taste there are who've created a demand for platinum because of its color and novelty and wearing

qualities. But here "at the price of gold we offer the effect of platinum," with an even better promise of wearing qualities. Here's a splendid opportunity on our White Gold Twin Six. In all frames and mountings, Fits-U's, Varsitys, etc., 14K only. One of the finest creations ever produced.



(Continued from page 161)

an operator's hands who takes two out of every six pairs of lenses and tests them for the above three points. If the lenses tested fail to meet the rigid requirements called for by Centex lenses the entire lot from which this selection was made are returned to the operator who is required to again gauge, center and focus the lenses.

Primex the Purest Quality of All

The purest lens quality involving inspections above enumerated, plus the minutest individual reinspection in which the slightest defect disqualifies, is our Primex, the finest quality in every respect that it is possible to buy.

Magnitude and Carefulness of Lensdale.

The most impressive feature of lens manufacture at the AOCo Lensdale plant is its magnitude and careful inspection. And on account of the tremendous scale on which operations are carried out, the utmost care and strictest supervision are exercised to segregate the work so that there shall be no confusion or opportunity to mix the many thousands of kinds of lenses made. And each individual lens must be kept entirely apart from its fellows to prevent the possibility of one glass surface scratching another. A strict rule forbids an operative to have more than one lens in his or her hand at one time.

The facilities provide for the carrying on of this work under ideal conditions of light and sanitation. Being far removed from the street, this great building will be free from dust which, in depositing upon the

glass surfaces, causes one of the most serious problems with which lens makers have to contend.

It will doubtless come as a surprise, even to the well-versed optician, to learn that there are well-nigh ten thousand different combinations regularly made in spherocylinder lenses alone, and this in simply the uncut form. There are over thirty different cylinders which are combined with about thirty different spheres, both plus and minus, in four combinations. Add to these plano-cylinders, plus and minus, double concave, double convex, periscopic concave and periscopic convex, toric and meniscus lenses, various forms of bifocals, etc., together with the increasing demand for lenses of special glass, and it will be evident that the assortment of lenses necessary to properly correct the various defects of the eye is little short of astounding.

Up to thirty-five years ago, little attempt was made to correct anything but the more common defects of vision. The application of science to the study of the causes and correction of faulty vision has totally changed this, as an instance of which may be cited the fact that comparatively little attention was paid to the correction of astigmatism, so that cylinder lenses were used comparatively little for this purpose a quarter of a century ago.

It will be apparent from the foregoing that the manufacture of spectacle lenses can only be carried on successfully on a very large scale, involving the use of special machinery and the investment of a large amount of capital. Come up and see our plant.

A Bargain and a Catchy Set of Display Pads



BECAUSE of our extensive purchasing power we sometimes find a rare opportunity to acquire special lots of high-grade fancy leathers at material reductions. In this way we have just taken over the entire available market stock of genuine black Arizona lizard leather—almost a thousand complete skins. Every skin [is a

good one. They make some of the most beautiful case coverings we have ever seen. The grain is handsomely and prominently marked. Our large illustration here shows its general character.

We can make only one case out of a skin. That means only one thousand of these optical cases, every one chamois lined with soft padded cover. Note their beautiful grain below.

All orders will be filled in two weeks' time. The price is such that you should act NOW for the sake of your holiday business. Three sizes, No. 705 eyeglass, No. 715 large eyeglass, No. 325 spectacle, at one price \$1.25. These cases will sell at retail from \$1.50 to \$2.00 each.

Also a Line of Pads for Show Case or Window

Now then, above is displayed a window of cases mounted on our graceful, soft green silk velvet display pads. Right above the case, printed in gold is your name, as per sample. (Space makes it necessary to limit this imprint to twenty letters, including spaces, all to be printed on one line.)

The set of six or ten superbly made cases mounted on the individualized display pads with your own name on each is a boost in the right direction. Order the set now of your jobber. Give him plenty of time to see that your name is imprinted on the pads.

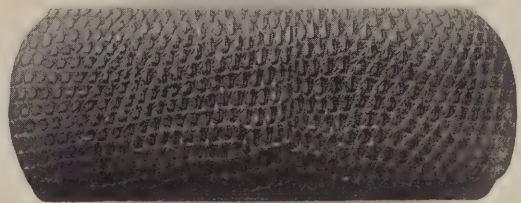
A description of the cases comprising this display is as follows:

Cat. No.	Description
325-31-K6	Flat top genuine brown Morocco leather, silk velvet lining, gold-filled protection band on edge of cover. Spectacle size.
717-21XC7	Genuine sealskin, gray chamois lining, sterling silver protection band. Large eyeglass size.
325 V4C4	Flat top, genuine blue French calf, blue chamois lining. Spectacle size.
328 PA1 Ox	Polished Aluminum, fancy engraved top oxidized black, black silk velvet lining. Spectacle size.
705X	Flat top, genuine lizard, black suede lining. Small finger-piece size.
707X7	Genuine natural lizard, gray silk velvet lining. Small eyeglass size.
325 N3C3	Flat top, genuine green Morocco, long grain, green chamois lining. Spectacle size.
325 K2	Flat top, genuine wine-color Morocco, wine-color silk velvet lining. Spectacle size.
715 K4C4	Flat top genuine blue Morocco, blue chamois lining. Large finger-piece size.
328 PA2	Polished Aluminum, gray silk velvet lining. Spectacle size.

Price for the complete set, on individual green velvet display pads with your name on each pad, \$11.00. If ten seems too many

for your particular needs, get a set of six, including: 325-31-K6, 717-21XC7, 328 PA1 Ox, 705X, 707X7, 715 K4C4.

Price for set of six, same description as above, \$8.00. Price for set of ten display pads alone, with your own name imprinted on each, \$4.50. Order from your jobber.



705 Genuine Lizard (Large Grain)



325 Genuine Lizard (Large Grain)



715 Genuine Lizard (Large Grain)

Saving Mr. Christmas Shopper from the River of Doubt

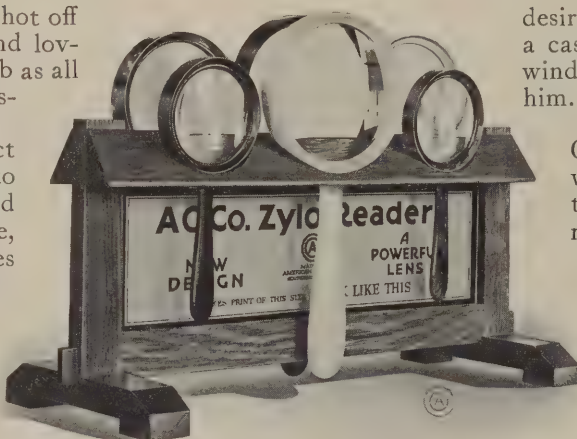
MR. Christmas Shopper, hot off the business griddle and loving his early evening job as all men do, is out in search of a present for grandmother.

He shuffles along in abject despair with restless glances into shop windows, itching to spend money but not knowing where, or on what. A fly cop watches him suspiciously.

"Doggone it," he mutters, "can't think of what to buy her! Why didn't I let Mary take this money and get her something good, anyway? Picking Christmas presents'll kill me."

"Aha!" says Mr. Optometrist Optician, "this is the fellow I'll save from the River of Doubt," as he dresses up his window.

So he takes his Christmas goods and he writes up a big sign that says "Optical gifts are the most useful Christmas gifts—a pair of glasses, a handy reader, genuine leather, silver and polished aluminum cases, etc., etc. Come in and let me talk about them." And he puts this sign in his window with ribbons running direct from it to the specific article. Then he takes a set of cards and places one before each article. One of these cards reads "Mr. Christmas Shopper, why not a Zylor Reader for the family table?"



Effective Window Stand, \$1.25 without Readers

Mr. Christmas Shopper, seeing a handsome mission stand of AOC Co. zylor readers with this sentiment displayed before it, stops, rubs the fevered brow and darts in the door like air into a vacuum.

"Here, sir, I want one of those white readers for my grandmother. And say, give me a card to write on and I'll put it inside if you'll do up a neat little package for me. The first minute's peace I've had for three days," as he peels off the bills.

Mr. Christmas Shopper leaves like a new man. He is only one of thousands who've never thought of optical presents as

desirable Christmas gifts until a casual glance at the attractive window solved his problem for him.

It has never occurred to Mr. Optical Dealer that the reason why Christmas in the Optical trade is dull is because he has not gone after the holiday shopper in every possible way.

An attractive window pointing to specific goods, our Christmas newspaper ads, or a circular like our brand new No. 17F8 to your customers or over the fitting table suggestions—a combination of these cannot

fail to bring you Christmas business.

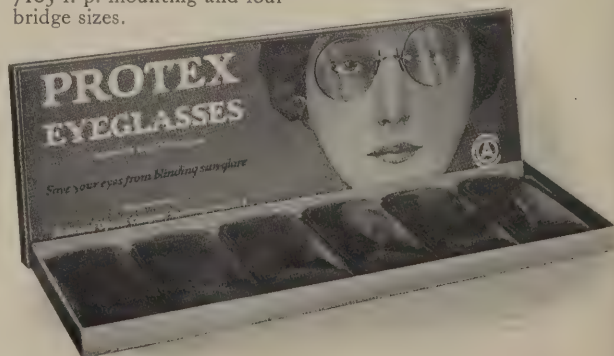
One of the most salable articles at Christmas, or any time for that matter, is a zylor reader. There is nothing in its line quite so attractive as a zylor reader; it is almost self-selling for the reason that whether in ivory, mottled amber, dark shell or black it is a beautiful piece of workmanship. Baby Zylor in any one of these four finishes is only 2 inches in diameter, while Zylor Senior carries a great diameter of 4 inches with a great field of vision. Between these two are the rest of the zylor diameters, 2½ inches and 3 inches.

When you take an assortment of finishes and diameters like this and mount it with powerful lenses on your handsome display stand, surely there is no better readers proposition extant, is there? Order from your jobber.

Cat. No.	Focus	Diameter	Ivory, Black or Dark Shell	Mottled Amber Per Doz.
R5952	+10.	2 inch	\$11.25	\$12.00
R5952½	+8.	2½ inch	15.00	16.25
R5953	+6.50	3 inch	18.00	19.50
R5954	+4.	4 inch	27.00	28.50

Protex was Made for Snow Glare

BE SURE not to forget that Protex "Better Set" gold-filled fingerpiece line with its microquille colored lenses and self-selling qualities—all at \$4.15 the set. It carries our No. 7103 f. p. mounting and four bridge sizes.



The Retreat of the Irish—By Nelson M. Baker

THE office force was out front sunning itself at the noon hour when down the street came a lively figure, cutting figure eights from curb to curb and gesticulating as if the devil were after him. The most holy terror was inscribed on that Irish countenance.

Close on his heels was a cross between a sewing machine and an M72 Edger. As the runner dodged, the animated box pursued. Up on the sidewalk ducked the frightened figure, and shot through the nearest door. On to the sidewalk pursued the mechanical bedbug, just missing a couple of good Irish coat tails by a hair's breadth.

Work resumed ten minutes later, the following monologue was



delivered by George L. Tully, foreman of the White Metal Department—and then some!

"Look here, Mister man," says he, one eye cocked at Supt. Nelson M. Baker of the Fingerpiece Department. "You want to cut that stuff out! Some day that handle of yours is going to bust and the guy that's bein' chased won't be as lucky as I was." There was undoubtedly dignity, sincerity and Celtic fire in Pop's attitude as he then delivered it. But as he tells it now a sparkle of Irish humor twinkles in the snappy eyes.

He tells it to show whimsical humor of "Nellie" Baker, the first in Southbridge to own an auto and whose mechanical genius led him once to build a steam auto of his own.

Twelve years ago he bought the machine here illustrated. Since then, as his fancy dictates, he has driven this sea-going hack around pedestrians, bicyclists, up on sidewalks or anywhere that expedience requires. He operates it with a swivel handle and can turn it with a twist of the wrist in its own length. It is a common sight to see him innocently hedge a scared pedestrian or ride up on to a sidewalk with droll, phlegmatic humor, wig-wagging through our broad rural thoroughfares. "Nellie" Baker and his one horse motive power have long been Southbridge institutions. He also owns a big touring car, for these are the man's mechanical playthings and diversions outside the shop.

The mechanical ability that led him to build and retain interest in autos in the late 90's had then long been employed in the invention and development of AO spectacle and eyeglass machinery.

Thirty seven years ago, in 1878, he began work with the American Optical Company, making spectacle eyes and bridges. In October of that year his interest in mechanics asserted itself and he began to learn the machinist's trade. He was appointed foreman of the Machine Department in January, 1891. While here he designed and built many tools and automatic machines that have made our

goods famous the world over. He made the first automatic machines for edging lenses. In 1904 he was in charge of all the engineering and mechanical departments connected with power transmission of the whole factory, excepting Lensdale. Then, in 1905, came a transfer to the Main Office where he assisted Mr. J. C. Wells in experimental and development work on spectacle and eyeglass lines.

Long previous to their appearance he played an important part in making the tools for the first fingerpiece mountings made in this country. This led to a division superintendency over the Fingerpiece Department in 1907, a position which he has held to date.

If the development of the famous AO Fingerpiece mountings can be credited to any one man the honors belong to Nelson M. Baker. The Fits-U mounting, under his direction, has undergone countless improvements, but never has he allowed its construction to stray from the simplicity, strength and style that have sold it in ever-increasing quantities beyond all competition.

This is the man with the whimsical humor and mechanical genius whom we take pleasure in presenting again because he is one of the young old-timers who've made AOCo goods a byword.

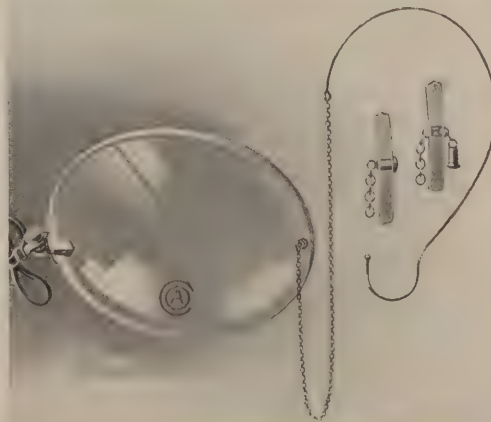


Nifty New Fits-U Chain Snap

THE new Fits-U Snap appears today for the first time. This patented device, for earloop chains only, is exclusively an AO invention guaranteed to solve the vexing problem of snaps for eyeglass chains. The lens is drilled the regular way.

When you wish to remove the snap simply run the chain through the drilled hole, loop wire and all. To put the chain on, draw the loop wire and chain through the hole until the solid end catches snugly in the lens. Simple and ingenious, isn't it? A happy little invention!

No additional charge, but an additional improvement over regular earloops. We make great quantities of chains but the smallest detail never escapes our attention. Order the Fits-U Chain Snap at your jobber's.



Gift of Optical Machinery to Columbia University

THE American Optical Co. has donated to the department of Physics in Columbia University a lot of optical machinery and apparatus valued approximately at \$1,500.

The outfit, when completely installed with the assistance of R. L. Gordon, head of our machinery department, will represent a modern, complete optician's workshop in every sense.

With all of the most up-to-date, space-saving features—from the famous M72 Edger down through a battery of M91's, M28's, M75's, M5's and so on ad infinitum—Columbia students are now provided with unequalled facilities for practical lens work. The optical glass, emery and supplies necessary in the use of this machinery have been included in the gift and will be supplied to the school from time to time as the need arises.

For its intrinsic worth the gift is insignificant. The reasons behind the gift, however, are interesting, since they were unthought of when three visitors alighted at our front door one day last April.

One of these, already known as the author of the most authoritative American work on optics had never seen the inside of a great optical plant before. He had expressed a desire to see the practical manufacture of ophthalmic lenses and mountings. We learned of it, extended the invitation and so Professor Southall, head of Columbia's School of Optometry, came to pay us the courtesy of a visit. Along with him he brought Dr. F. A. Woll and Prof. H. W. Farwell of the school, and a day and a half was spent in sight-seeing.

Dr. Southall was asked to speak to the employees of the company and his words are still remembered by

many of us who believe there is to be a great future for optics in America. He said, in effect: "Our Columbia School is not concerned

in the controversy that exists between the various factions.

"We are taking no sides, for our ideal is the development of optics in America both on its practical and theoretical sides. We hope eventually to have at Columbia an Institute of Optics where all phases of optics can be studied, from research work to the actual practice of Optometry. We

hope, therefore, to enroll all branches of the profession in this undertaking until eventually, who knows? we may become independent and develop here in America a Newton, an Abbé, or a Fraunhofer who will place us on the pinnacle of optical research now occupied by others.

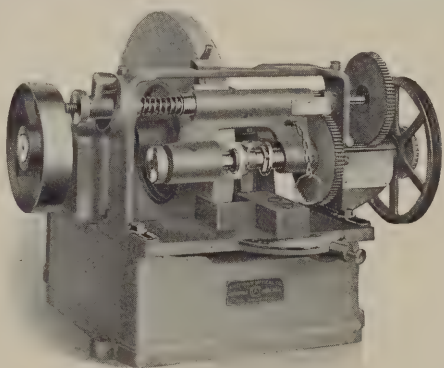
"It is significant that there is today not an endowed chair of optics in any of our American universities or colleges. Columbia University was the first of the schools of higher learning to give a course in spectacle optics. Ohio State University, and other great schools, have sprung up until today we are taking great strides towards the future we all have in mind. I have unbounded faith that we can accomplish the great work and that all of us will

live to see the fruition of these hopes."

We believe in forwarding and encouraging any enterprise that makes for human progress, and above all the American Optical Co. desires to have an active part in any movement which has for its purpose the creation of a school of optical engineering in this country, where capable students can obtain instruction in all the various branches of optics, both theoretical and applied, and where also systematic investigations and researches can be carried on which may lead ultimately to new discoveries and new inven-



Columbia University Library Building



M75. Young American Edger. Pats. Pend.



tions and which doubtless will promote the growth and development of the optical industries in this country.

It was in order to manifest in some tangible way our desire to coöperate in this movement which has been begun in Columbia University, and to show Professor Southall and his colleagues how much we were in sympathy with their aims and endeavors, that we offered to supply their laboratories with this valuable equipment of apparatus and machinery. At the same time the American Optical Co. also founded two scholarships in the optometry courses in Columbia University, which are to be awarded each year to deserving young men, preferably to those in our own shops who have already gained practical experience with us and are eager to make use of the exceptional opportunities for higher training in optics which are now to be had in Columbia University.

Since writing this we have been gratified to receive the following letter from Professor Southall which we take pleasure in publishing complete:

COLUMBIA UNIVERSITY, Oct. 5, 1915.

MR. C. M. WELLS,
Southbridge, Mass.

MY DEAR SIR:—Your handsome donation of machinery and apparatus has greatly increased the laboratory facilities of the school of optometry in Columbia University, and both for myself and for my colleagues I desire to express our warm appreciation not only of the valuable and serviceable gift itself, but especially of the motives which inspired you to make it.

It was the same spirit that suggested the foundation of two scholarships in these courses, which I hope will perpetuate the friendly connection between the American Optical Company and the university for long years to come and prove always a source of mutual benefit and satisfaction.

As far as I know, this is the first step that has been taken by any of the great optical establishments in this country to manifest a real and effectual interest in the development and extension of optical engineering in America. The day is coming—and, indeed, I think it is not far distant—when our own land will be a recognized leader in the optical industries, just as your company has already gained a world-wide fame in the special field which you have cultivated with such signal success.

The courses in optics which are being given in Columbia University are the nucleus of a greater and more far-reaching development not only in spectacle optics but in all the other manifold branches of applied optics as well; and it is greatly to your credit that you have discerned this and have recognized in such substantial fashion the importance of this movement for higher training in applied optics.

Not one of our great institutions of learning, either here or in Great Britain, has created a chair of optics, although there are professorships and well-appointed laboratories for nearly all the other arts and sciences. Those of us who know what has been achieved in other countries and how the optical industries have flourished abroad under the guidance of science and special training should not rest satisfied until we witness and obtain the same results in our own land, and especially now when the opportunity for such development is greater and more pressing than ever before.

Permit me, therefore, to congratulate you for the progressive spirit which is exhibited by your encouragement of our efforts, on behalf of applied optics in Columbia University; and I think I can safely say that you also will never have occasion to regret your generous assistance. You will reap where you have sown, and the university will repay you by turning out year by year expert and accomplished opticians and engineers, not only acquainted with the work of men like Newton, Huygens, Fraunhofer, Helmholtz, Abbé and others, but inspired also by their lofty aims and ideals and kindled perhaps with a spark of their enthusiasm, who will enable America to keep pace with other lands in optical inventions and optical enterprise.

With grateful acknowledgment and felicitations, I am, dear Sirs,
Faithfully and sincerely yours,

JAMES P. C. SOUTHALL.

Where Else Can You Get Custom-Made Gold-Filled?

THE sheer joy of talking about your own goods, friends, is never lessened, we assure you, by the fact that you are conscious of their superiority.

Pride in your own accomplishments, if it does not run to conceit or ignore the other fellow's merit, is a powerful force in the production and sale of goods, particularly gold-filled goods.

So when we modestly proclaim the excellence of our Flag lines with three thumps on the pulpit, take it with a grain of salt if you must, but *try them out*. Give them a fair test over a reasonable period of time. We have no misgivings about the result. This of course applies mostly to the fellow who's skeptical.

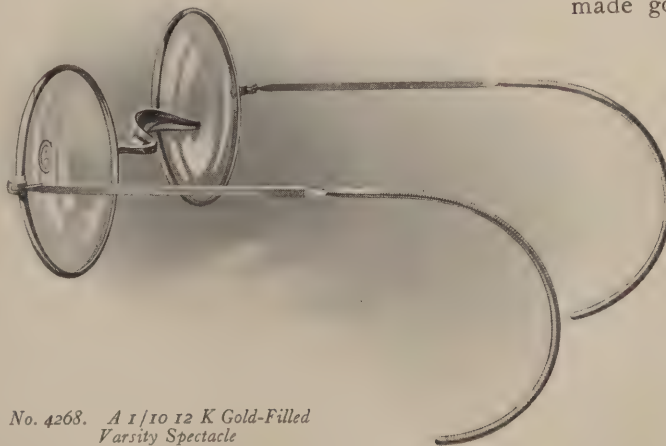
If, on the other hand, it were good business or necessary and we opened our gold-filled sales books to you, it would be somewhat of a revelation to see the increasing volume of business we're doing in this line. It

would seem that for every skeptic there are fifty of the Faithful, who have tested out AO gold-filled with supreme satisfaction.

We make not only a great quantity of gold-filled goods but we make them from the raw material to the finished product—custom-made goods—an advantage en-

joyed by no other optical manufacturer. We take this great quantity and we inject quality into it; and it takes a smooth running, wasteless organization to inject quality into quantity.

The illustration shows one of our custom-made Varsity styles. Our Flag lines merit your most conscientious attention, while for Christmas a gift of No.

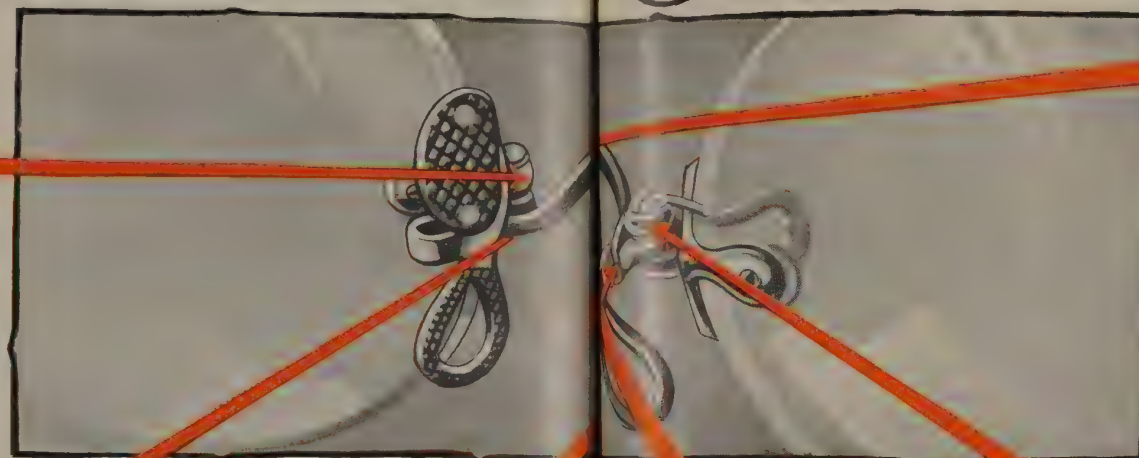
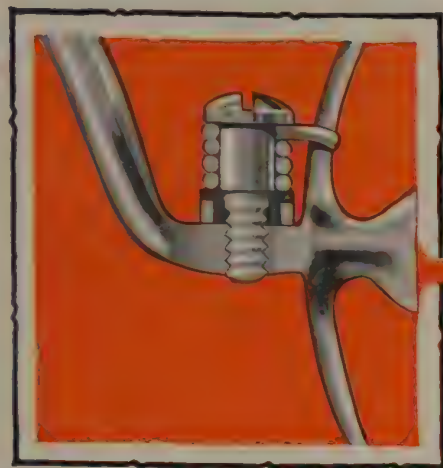


No. 4263. A 1/10 12 K Gold-Filled Varsity Spectacle

4167 1/10 14K or 4163 1/10 14K heavy Varsity spectacles with solid gold endpieces and half-riding or straight temples are splendid propositions at \$5.00 and \$4.00 the pair respectively. Ask your jobber.

The perfection of the whole is based on the perfection of its parts

Fits-U Eyeglasses



THE patented AO Washer made the fingerpiece eyeglass really successful. The Fits-U Eyeglass made the AO Washer famous. You can easily realize what a vital function is performed by this ingenious little "bush." We invented it and put it where it belonged to provide a bearing shoulder beneath which the AO Guard Arm might operate with just enough freedom so that it would never bind or even wobble. Note, please, that the little shoulder on the screw holds the washer down tight against the bridge seat, yet it doesn't bear upon the guard arm a bit. Realize what that means in long life and good service. No other way has ever been successfully devised to accomplish the same results. A small detail but a mighty big Fits-U feature.

When you come to buy a fingerpiece mounting on which you are willing to stake your reputation, details like these are the most salient reasons why you can hope to gain increased prestige with the Fits-U. But now to continue.



ORIGINALLY people argued that the fingerpiece eyeglass was doomed to sink into oblivion because of its increased pupillary distance. Partly true, until we introduced the narrow p. d. Fits-U. By shortening the bend at the guard seat we saved nearly 2 mm. in the p. d. That meant a big difference in nicety of fitting.

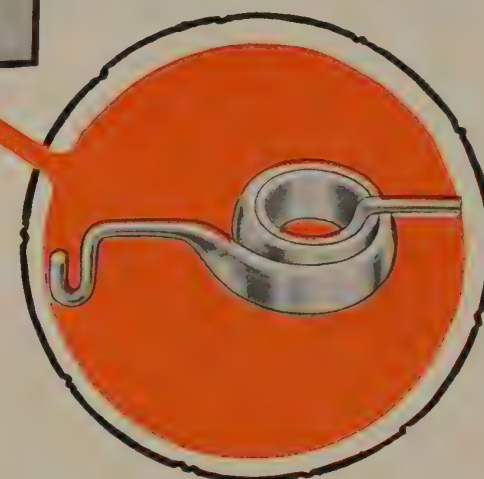
Refinements like this are what have made Fits-U the leader. We don't adopt improvements in detail until we are sure that they are really worth while. But out of many ideas that our experimental department is conceiving constantly, once in awhile we hit a real live up-to-the minute idea that we can apply to Fits-U eyeglasses. In this way Fits-U's are kept well ahead of the fingerpiece procession.



THE fact that every other maker of eyeglasses copied the famous AO Loop Guard Arm is certainly an argument in its favor. It has made accurate eyeglass fitting possible. With it one can adjust the guard up, down, in, out, forward or back, placing the guard blades in their correct plane.



THE Rocking Pad on the No. 3112 Fits-U makes fitting a very much simplified problem. That little independent guard is in reality self-adjusting, for it automatically finds the most comfortable position to gently sink into and stays there at the right angle. Any tilt forward is corrected by the edge of the pad.



PERHAPS you never gave much thought to the patented OVALEX spring Wry and what its real functions and advantages are. In the first place the OVALEX is not a flat spring—it is a modified oval in form which from a mechanical point of view is known to be stronger—much stronger by actual test. We tried to wear a pair of these springs out on an automatic finger- ing machine. They were vibrated over three million times without any perceptible weakness or wear. The coils of the spring being oval in form exclude dust and dirt, which is known to accumulate in flat springs.

And best among many other good and satisfying advantages is the appearance of the Ovalex. It is for you to say.

WE have said to you many a time "Look for the name FITS-U in the bridge."

We mean it, because it is the stamp of real merit in fingerpiece eyeglasses. Just as your signature on a check makes it genuine, so the name FITS-U has an actual value when stamped on the bridge. It is a token of good faith—our willingness to stand back of a superior product—your guarantee of value and genuineness. Let us consider what else the name FITS-U means. It is the name found on more fingerpiece mountings than almost all other mountings combined. It is sold widely in every civilized part of the globe. The demand for Fits-U's has been stimulated by national advertising and by the generous distribution of every form of dealer advertising. We make the Fits-U's better for you to buy and best for you to sell.

We have not reached the limit in our attempts to make the most perfect fingerpiece mounting. We shall continue to improve the Fits-U.

The Preparation of Eye-Preserving Glass for Spectacles—III

By SIR WILLIAM CROOKES, O. M., F. R. S.

CONTINUING from last month we now take up the measurement of infra-red radiation. Before I had tried many experiments with the thermopile and black mica another difficulty cropped up. The heat radiated from the Nernst glower gradually warmed up to the apparatus, and unless a long time was allowed between each observation I never could get the index ray of light to return to zero. This and the little sensitiveness of the instrument used induced me to try a mercurial thermometer in place of the thermopile, all other arrangements being as before. The thermometer was specially constructed with a concave bulb coated with carbon from burning camphor. It was divided into tenths of a degree, the scale being about 9 mm. to a degree.

To test, a selected plate of black mica was permanently fixed in the apparatus between the bulb of the thermometer and the slide containing the glass. First of all, upon lighting the Nernst lamp, the rise in temperature was taken, having only the mica plate between the lamp and the thermometer. The thermometer was observed from a distance through a cathetometer. It was allowed to rise about 1°C ., and then with a stop-watch the further rise in sixty seconds was observed. A mean of four observations in this way gave a rise in sixty seconds of —

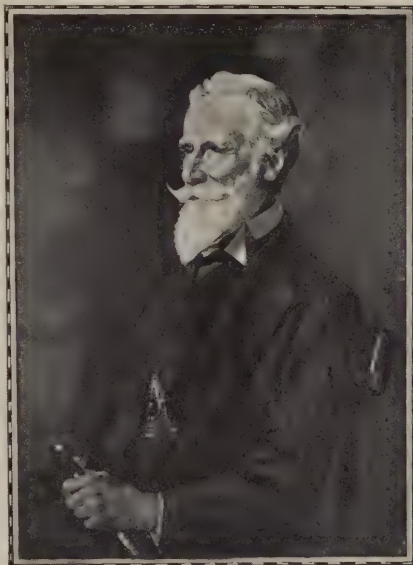
$$\left. \begin{array}{l} 1.75 \\ 1.60 \\ 1.725 \\ 1.675 \end{array} \right\} \text{mean } 1.683$$

In making a determination of diathermancy, glass plates 2 mm. thick were prepared and placed close to the thermometer bulb in a holder having a $\frac{1}{2}$ inch hole; ten observations were made and the mean taken as the value which was given in percentages of 1.683.

Thus with one glass the mean rise in sixty seconds = 0.26°C .—

$$\frac{0.26 \times 100}{1.683} = 15.4^{\circ}\text{C}.$$

A mean of ten similar observations gave a value which was taken as the diathermancy of the glass to dark heat. Its athermancy is obtained by subtracting this value from 100. In this way a multitude of glasses were tested, and recently the results have been plotted on a curve which was found to correspond closely with the result subsequently obtained by the radiometer method.



The Radiometer Balance

IN early papers on "Repulsion Resulting from Radiation," I showed that the blackened surface of a radiometer was repelled by all the rays of the solar spectrum, from the ultra-violet to a distance at the red end extending far into the ultra-red, the maximum intensity being a little distance below the spectrum line A.

An instrument was accordingly made based on the principle of the radiometer, and somewhat resembling the apparatus described in a paper read before the Royal Society in 1875,—“On Repulsion Resulting from Radiation.” It is a torsion balance in which the beam moves in a horizontal plane. Figures 1 and 2 show the details of the instrument, the letter references being

the same in each figure. A B is a thin glass tube, with a bulb at the end, B, and ground flat at the end, A. To the centre of A B is sealed an upright tube, C D, having an arm, E, blown to it for the purpose of attachment to the pump. F G is a very light arm of aluminium carrying at the end, O, a disc of silver-flake mica coated with lamp-black. At the end, F, is a small counterpoise to allow the arm to hang level. H is a glass stopper to the upper part of the tube, C D, which is widened out to form a cup to hold mercury. The stopper in the cup is accurately ground in the tube, as long a surface as practicable being in contact. The horizontal arm is suspended from the stopper by a bifilar suspension of fine quartz fibres, I J, which are attached to the arm F G by an aluminium stirrup holding at its upper end a silvered glass mirror of one metre focus. The vertical tube is blown out and the edges ground flat at the part where the mirror hangs; a flat piece of glass is cemented to it, forming a window through which pass the entering and emerging index beams of light. The end A of the horizontal tube is left open to allow of the adjustment of the arm in its stirrup, and then it is sealed with a flat piece of glass cemented on. The stopper, H, is lubricated with drops of burnt india rubber so that it can be smoothly rotated to allow the arm to be brought accurately to zero.

Figure 2 shows the arrangement of the apparatus fitted for testing samples of glass. The radiometer balance is enclosed in a wooden box having two holes opposite the mirror and the end of the blackened disc at the torsion arm. Great precautions must be taken to avoid all extraneous radiations from acting on the black disc; a slightly conical card tube, as narrow as the angular movement of the ray of light will admit, is attached to the window at K in front of the mirror, S, and another to the bulb at L, opposite the black disc.

The heat radiation used in these tests is emitted from a Nernst glower, M, enclosed in a metal box with an open end. In front of the glower is an aluminum screen, N, pierced with a centimetre hole. A shutter, O, can be moved up and down by an arm close to the observer. The shutter screen is made of a piece of cork an inch thick, having on each side a plate of polished aluminum. In this way the heating up of the shutter when it is obscuring the ray from the glower is effectually prevented. At P is a frame for supporting the piece of black mica, and at Q is a sliding carrier holding the piece of glass under examination. This is so arranged that it can be drawn out and another piece of glass put in without causing any jar. Behind the glass is an aluminum screen, R, with a hole in it one centimetre in diameter. The vacuum must be a rather high one, about 40 millionths of an atmosphere.

The whole apparatus is closely packed with cotton-wool, so that no radiation can get to the black disc but that which comes through the window opposite. The box containing the radiometer balance is firmly attached to the main wall of the house, to avoid as much as possible interference from vibration caused by movements in the room. A spot of light reflected by the mirror, S, from another luminous source is received upon a graduated screen one metre distant in the usual manner.

Testing Synthetic Glasses for Diathermancy

THE mode of procedure is thus:—The mica is put in its place and the lamps started. In about ten minutes the zero is adjusted by means of the rotating stopper. When the spot of light is at zero the shutter, O, is raised, and the extent of the deflection noted. At the end of the first half swing the shutter is lowered, and the whole is left at rest until the light is again at zero. The glass under test, T, is now put in its carrier and slid into place, and the extent of deflection of the spot of light noted when the shutter is raised. The amount of deflection with the same piece of mica interposed is thus obtained with many

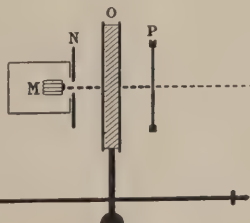


FIG. 2.

- A, B, C, D, E. Case of radiometer (Fig. 1).
 F, G. Radiometer arm with blackened mica disc.
 H. Ground glass joint (Fig. 1).
 I, J. Quartz fibres (Fig. 1).
 K. Guard tube in front of mirror S.
 L. Guard tube in front of radiometer disc.
 M. Nernst glower.
 N. Aluminium screen.
 O. Shutter.
 P. Black mica screen.
 Q. Carrier for holding glass specimen.
 R. Aluminium screen.
 S. Concave mirror, one metre focus.
 T. Glass specimen under examination.

different kinds of glass, and from the data the order of obstruction to heat rays can be calculated for each. It is a necessary precaution to verify the readings once or twice, and to allow the spot of light to come accurately to zero. It is inclined to shift if observations are repeated too rapidly, owing to the retention of heat by the blackened face of the radiometer disc, and the consequent repulsion between it and the front of the bulb B. This effect soon goes off if a little time elapses between the different observations.

The deflection of the spot of light when the dark mica alone is interposed gives the effect of the total heat ray, and the lessened deflection when the glass under test is also interposed is a measure of the heat it cuts off. By dividing the scale divisions traversed by the luminous index when both glass and mica are in the path of the heat ray by the number of scale divisions traversed when the mica alone is interposed, the result gives the amount of heat obstructed.

Addition of Absorbing Media to the Soda Flux

THE first point to be settled is the effect of dissolving various metallic oxides by fusion in the clear colourless glass. The metal is added in the form of oxide, nitrate, or other salt, according to which is easiest to obtain pure. Unless oxida-

tion of other ingredients is to be avoided the nitrate is preferred, as the copious liberation of gas during the fusion stirs up the fused mixture and assists in making it homogeneous in a much shorter time.

To be generally useful, it is desirable to obtain a glass which will absorb rays of longer wave-length than about $\lambda 7200$ and so cut off dark heat radiation. It should also be opaque to wave-lengths shorter than about $\lambda 3550$, thus cutting off the most chemically active rays, and also those which give rise to ionization, i. e., cause the air through which they pass to conduct electricity.

Working in a vacuum and with sensitive plates of emulsion containing no gelatine, Dr. Schumann succeeded in photographing ultra-violet rays as short as $\lambda 1000$.

In a paper recently read before the French Physical Society by M. M. Karl Stockhausen and Fritz Schanz, it is stated that the harmful action of light on the eye is due to the ultra-violet rays. It is also shown that the cornea is opaque to rays shorter than $\lambda 3200$.

The crystalline lens is opaque to rays shorter than $\lambda 3500$, and rays of longer wave-lengths than this reach the retina. As the transparency of ordinary spectacle glass is limited to $\lambda 3000$, it follows that a considerable amount of ultra-violet radiation may reach the cornea through ordinary spectacles.

(To be Concluded)

Amoptico

Reg. in U. S. Pat. Off.

Vol. IV November, 1915 No. 8

Published Monthly by
American Optical Company
1833-1915

Channing M. Wells Albert B. Wells
President Treasurer
J. Cheney Wells
Vice-President and Secretary
General Offices and Works
Southbridge, Massachusetts, U. S. A.



New York 15 Maiden Lane
Chicago 5 S. Wabash Avenue
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European Agency,
American Optical Company, Limited
39 Hatton Garden, London, E C

Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.

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Destroying a Bugbear

IN our October and November issues it is noticed that particular stress has been laid on the "Optical Gifts for Christmas Gifts" sentiment.



Believing that the holiday season should bring increased sales and opportunities to the trade, we have prepared special newspaper ads, window displays, a brand new Christmas circular No. 17F8 in three colors and have enclosed some of our goods in specially designed Christmas containers.

We are sounding the first call ever issued to the trade in a complete, comprehensive plan, showing how to kill the ancient trade prejudice that optical goods cannot be sold as holiday gifts. This prejudice if true, has been due to the want of a definite plan, such as we now provide for the first time.

If eyesight is so precious, what would be more appreciated than a

gift of a pair of glasses, or a reader, or a protective sterling silver case for spectacles, or perhaps motorglasses? Why is it that you cannot sell your precious goods to the public when far less useful and more trivial gifts catch the public pocketbook?

We believe there is no other answer than "we can," and if you'll allow us to create the buying impulse in your customers by using our helps, the "dull Christmas" bugbear will disappear.

Run one ad each week, take our suggestion and dress up your window, order our No. 17F8 folders and mail them to your patients, and finally suggest a Christmas gift to them when they come into your shop. This broad plan will bring you results. Let's make a drive for this Christmas business.



Another Score for KeeLock

Gentlemen:—I am in receipt of the Kryptok Crookes KeeLock Glasses you made for me, and shall take pleasure in showing them and hope ere long I can induce my jobber to install them so that I may prescribe them. Up to date they have fought shy of screwless. I am delighted with these.—OCULIST.



Address "Lensdale, Michigan"

Gentlemen:—I live and do business away from the down-town district, but in a very pleasant home on a good street.

I use only American Optical Co. goods and have named my place "Lensdale" after your great plant. I am sending you a copy of my newspaper announcement to that effect. The motto that I shall use extensively in my advertising will be "Lensdale Quality."

I would like very much to have a series of pictures of "Lensdale" to hang on my walls as it inspires confidence in my goods to point with pride to the place where my goods are made.—J. W. STOVER, Grand Rapids, Mich.



A Southern Tribute

Gentlemen:—In reference to your letter of July 16th, will say that we have no objection to your using anything that we may say regarding Crookes glass or AOCO goods.

We use your cases, frames, lenses, etc., and we are pleased to see the great improvement in both finish and quality. To people who have been in this business as long as we have the difference between the goods of today and the past is very evident. It looks as though you had reached your limit—but then, we thought that years ago.

Since writing you we have sold four

more pairs of these Sir William Crookes glasses and every report that we have had to date has been one of praise.

As the optical trade has been over-run with glasses of every shade and color it is a great satisfaction to have something that has a real proven value, and there is no doubt in our mind that Crookes glass does all that is claimed for it and more.

Your Crookes booklets—10F7—will be a great help to us in interesting people and we will put them into the hands of people who will appreciate them.—J. H. STANTON, Birmingham, Ala.



What the Health Commissioner Says

I have just read your articles on "Noviol Glasses" and "The Preparation of Eye-Preserving Glass for Spectacles" by Sir William Crookes in September issue of "Amoptico." I was much interested in both and immediately phoned several opticians for a pair of the Noviol Spectacles for personal use.

Please continue me on your mailing list as I often get valuable information from "Amoptico," useful in my public health work.—From a prominent M. D.



Popularizing Fits-U's

DUNEDIN, New Zealand.

We have found that our last advertising campaign has popularized the Fits-U Eyeglasses a great deal more than we expected and we hope the cuts you have forwarded us will continue to do their good work.

With regard to the window signs—they are really first class, giving as they do a brightness to our displays and we hope you will be able to let us have fresh ones from time to time.

Anything we have said in this or previous letters you are at perfect liberty to use and we feel sure that any dealer who makes proper use of your advertising helps, is in a way to do himself a good turn.—HUGH NEILL.

KeeLock Results

Hancock, Mich.
Gentlemen:—I personally distributed a few of your KeeLock circulars No. 2F5 this A.M. and was indeed gratified and pleased to find a patient in my office 15 minutes later to have his Rx made up in KeeLock spectacles Toric form.

I certainly intend pushing the KeeLocks, and if you have any more literature on this subject to spare I will certainly appreciate it to help increase my sales.

I am now using Centex (AOCO), Ovalax, Fits-U eyeglass mountings, AOCO frames and, for traveling, a 4180 Quaker style Trial Case, your make.

I have always found entire satisfaction in your goods and shall continue using them.

Again thanking you for your hearty coöperation in the matter, and with kindest regards, I am,

—L. H. K.

Making Merry Merry

Kansas City, Mo.
Gentlemen:—We are pleased to say with reference to finishing emery, that we are now getting along very nicely with the finishing emery you are supplying. It is coming uniform and our workmen are getting excellent results from it. In fact, they like it better than any finishing emery we have ever used and we are glad you have been able to supply us with a grade of emery to our liking that is so satisfactory.

Thanking you for your efforts in assisting us to obtain what was wanted in this line, we remain,

—MERRY OPTICAL COMPANY.

Get Yours While the Getting is Good

The Holiday Season is the Spending Season: Here are Some Ways of Getting Your Share



No. 17M52

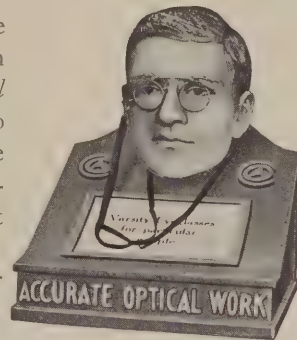
\$1.50

Full Set of Display Cards Included

BY way of introduction, here's the Glad Hand that welcomes customers so hospitably to your store. If you're more interested in sales than in storage, you'll find that a pair of glasses in this hand is worth two hundred on your shelves. It's the hand that shows the goods that makes the sales. One of your best bets!

HE'S something more than a Model Man—he's a *Model Salesman*. He draws no salary, he runs no expense account, he takes no vacations—but day and night he *sells the goods*.

Can you say as much for any other salesman you could hire?



This striking display No. 17M30. Model Man at \$7.50

now appears in well-nigh a thousand optical shops in the United States and abroad. This is in itself proof positive of its success.

It has been found the most striking window attraction ever offered to the optical public. Wherever the optometrist or optician is known the model man is now a familiar face.

With a set of handsome cards and strong features that set off a pair of Fits-U's, it is the strongest single selling force you can put in your window. Order one of these Silent Salesmen for your Christmas window if you are out for increased effectiveness.

THIS may be a transparent device to sell AOCO goods, but it is equally apparent that there's a good dealer profit inherent in every sale this transparency makes for the AOCO adherent. It is a very distinctive red, black and gold crest for your shop door. Order one now for your door or window. No. 17W5.



No. 17W5. Sent to you free



No. 5W18. Sent to you free

THIS Fits-U Window Display makes every detail of Fits-U design and construction as plain as the nose on a man's face. It looks your customer straight in the eye, and tells an honest, convincing story of Fits-U quality.

THIS Fits-U Store Sign has a keen eye for new business. It looks up and down the street and across the way, and everywhere it looks it

catches the eye of possible customers. It says to them: — "Here's an optical store that gives quality service and sells quality goods. Come in and see."

"At the Sign of the Fits-U" is rapidly becoming a by-word with the glass-wearing public.



No. 5W22, free



Featuring Thanksgiving and the Live News Value of KeeLock

TWO pumpkins, some cornstalks, a few brilliantly colored autumn leaves and a piece of orange or black and white drapery—that's all you need provide for this mighty attractive window display. Every other necessary article we can furnish you complete and all ready for use. With the photograph before you it is a very simple matter to arrange the display in your window.

Why not go in for some *real* window displays from now on through the holiday season? Have you ever noticed that the biggest and most successful stores are always the ones that have the most attractive window displays? There's a reason, needless to say.

From now on the AOCo Advertising Department is going to give you the very closest coöperation in getting up good window displays that can be installed at a moderate cost. Next month we will show you a corking Christmas display, and if you start now with this Thanksgiving window you will have a succession of bright, attractive displays that will do more than any other one thing to bring you in a big holiday trade.

When you check up your holiday profits after following our Thanksgiving and Christmas window trim suggestions we want you to feel convinced that the optical bugaboo about the dull holiday seasons has been dispelled once for all. We want you to show a larger balance than ever before on the credit side of your ledger.

The way to do it is to take these window suggestions from month to month and make them attractive

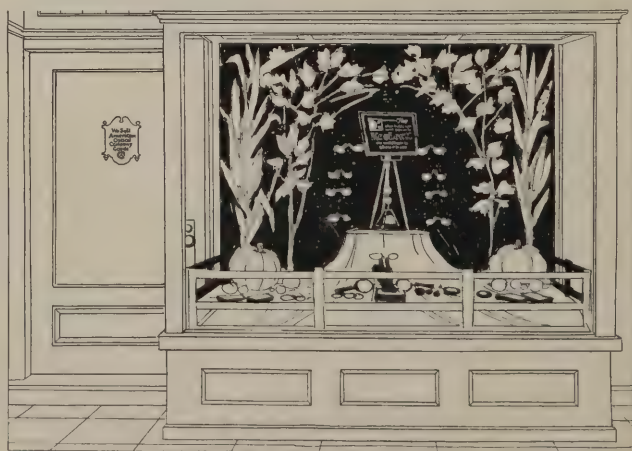
IN this month's window, which we have devoted to a seasonal Thanksgiving display of KeeLock, we used the simplest of materials.

Two bright orange pumpkins, an armful of cornstalks and a background of ordinary white or orange cloth, with gray, black or any color velvet for the floor drapery, was all the material needed.

In the center a complete new KeeLock tripod at \$1.50 gives a news value to attract interest and stimulate the buying impulse. Add a few readers, glasses, cases and our 17D1 cards and your window is complete.

with appropriate colors, such as orange and black for Hallowe'en and Thanksgiving, red and green and white for Christmas.

In the window feature the *latest, newest* developments in optical lines, such as the discovery of Crookes lenses—a great scientific development in itself—that will carry live messages to the public, or the KeeLock, a great cement strap development, or the Kryptok or Ultex One-piece Bifocals. Feature *new* goods like new styles; keep the news and scientific interest of them constantly before your public. This is the use of your window. Its reflection stamps you with the public as a live enterprising dealer. Your profits increase in direct proportion. Let us help you.



Skeleton Outline Suggestion



Window Card, No. 2W1, free

WHEN you get your Thanksgiving window fixed step outside and listen to the chatter of the crowd: "For Heaven's Sake!"

"Well I'll be jiggered!"

"Say, look at that! Pretty clever!"

"Let's go in and see how it works."

Just a few remarks from the front of any window where this remarkable KeeLock Display is shown. It's the most convincing demonstration of KeeLock strength and rigidity that could possibly be figured out. It not only stops the passersby at your window, but it brings them in to "see how it works," and if you are any kind of a salesman that means sales. We furnish this KeeLock Display at \$1.50 complete, and every optical dealer who has used it is enthusiastic over the results. Our present supply of these displays is running low, and if you want yours we advise you to send in your order at an early date.

The New Christmas Folder—17F8

THE New Christmas folder including a list of desirable optical goods for holiday gifts is one of the best features ever adopted by the trade. Our initial stock of these since the announcement last month has been depleted by those who are alive to the necessity of turning Christmas into a busy season. The demand for such a circular has been insistent this year until now we appear with the first Suggestion Book ever offered to the trade.

The circular is beautifully designed in red, green and white. Within are



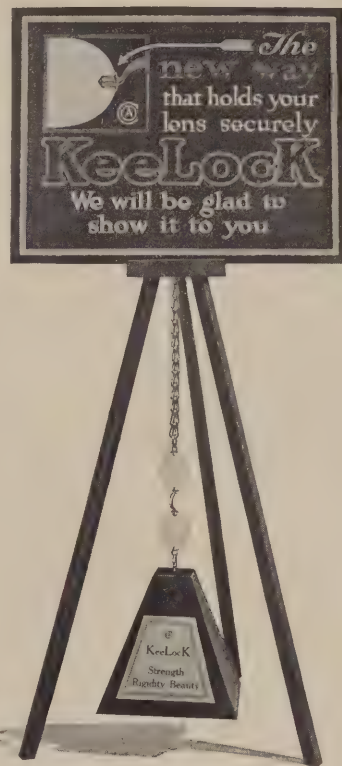
No. 17F8

\$2.00 per
1000

suggestions for all in Eyeglasses, Readers' Amoptiscopes and Varsity spectacles.

Take your mailing list and send one of these folders to every father, mother, daughter and brother, etc., in your locality. When they come in have these Christmas gifts neatly arranged with holly, red ribbons, etc., in your window, or on your counter. Take our Christmas newspaper ads. and run them in your local paper. These are the methods that count when you come to add up Christmas sales.

Orders taken now at the rate of \$2.00 per thousand with imprint free.



No 2D1, \$1.50 complete

Fits-U Tags Are Worth Saving

360 Tags for a Model Man valued at.....	\$7.50
72 Tags for a Glad Hand 17M52 at.....	1.50
72 Tags for a KeeLock Tripod 2D1 at.....	1.50
72 Tags for a Schoolboy Window Display at.....	1.50
48 Tags for a Toric Window Display at.....	1.00

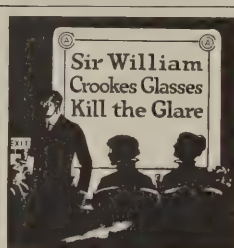
TWELVE Fits-U tags are worth 25 cents, tags accepted for full amounts only. Circulars, letterheads or any advertising matter for which we make or charge, are included in this offer. So send in your Fits-U Tags.

The great army of Fits-U dealers who are now in a position to capitalize their purchases will take advantage of this offer to exchange Fits-U tags for advertising matter and increased profits. Please enclose tags and letter describing the material wanted in the same envelope or package. Address care of the Publicity Department.

These are the days when initiative and enterprise are liberally reflected from the wise use of advertising matter. Save your tags.

Dealers' Newspaper Ads.

FOR December newspaper advertising we recommend these four timely ads. During these winter days the arguments in favor of Crookes Lenses makes a specially strong appeal. Every-



If the Pictures Hurt Your Eyes

Do not give up the pleasure of attending the movies. Take the precaution to protect your eyes with suitable glasses. The wonderful new glass for spectacle and eyeglass lenses discovered by Sir William Crookes really takes the harmful glare out of daylight or artificial light. As the glass has a barely perceptible tint it does not "change the colors of things." Let us explain how Crookes' Glass can solve your eyeglass lens troubles.

DEALER'S NAME

1st week—No. 10B

longer hours under artificial light.

The Christmas ads used in November can be repeated along with these ads. in December, allowing a part of a week for each ad.

Prompt and full advantage of these free newspaper ads. should be taken as we shall offer a series of four ads. each month during the year to come. These ads., if used consistently in your local paper throughout the year will find immediate reflections in your sales totals.

They will be found to be seasonal, artistic and effective. Order them by number now and start in on your Christmas advertising. Take the AMOPTICO to your local paper and show them how you wish them to be set up. Get him to place your ad. next to the *Local News* columns where it will be most effective. Start now on a year of success with these helps.



Practical Xmas Optical Gifts

The joy of giving is multiplied when the gift is useful. Our shop has solved the gift problem every year for many of our customers. Some of the suggestions we can make will bring many happy surprises.

For the older folks we suggest magnifying and reading glasses, library spectacles, lorgnettes, eyeglass holders.

For the younger folks, silver or fancy leather and aluminum cases, eyeglass chains, pocket magnifiers.

An order on us for a new pair of Toric Lenses for the relative or friend who wears glasses is always an appropriate Christmas gift.

DEALERS NAME

2nd week—No. A57

Buff and Blue Window Cards

WE show also on this page a variety of handsomely lettered buff, blue and brown Vest Pocket size window cards adapted to a number of different purposes. They are furnished at 25 cents the set.

These small window cards, conspicuous by their neatness and attractive design rather than their size have been received with wide favor by the trade.

When you're dressing a window with readers, Fits-U's, spectacles, chains and cases, these descriptive cards are very beautiful little helps in pointing specifically to these articles.

A set of 17D5's is something that will always be found useful and ornamental for your window or counter or fitting table. Appropriately framed, or just as they are they call attention attractively to the goods you have to sell.

Next month we shall have a Christmas window display. All these attractive accessories will fit in



The Fits-U Optical Shop

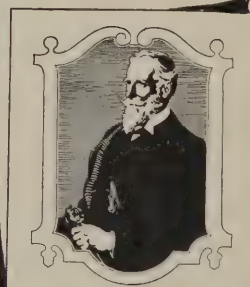
We have fitted hundreds of well-satisfied patients with Fits-U Eyeglasses. These famous glasses are the very finest that you can possibly buy for your eyes, yet they cost no more than other ordinary kinds that give so much trouble, annoyance and expense.

We want you to know our establishment as the Fits-U Optical Shop. That really means the highest quality in mountings and lenses coupled with a professional service that will in every way satisfy the exacting demands of your eyesight.

DEALER'S NAME

3d week—No. A59

nicely to make your window the best in town. You can do no better than use these skillfully designed and most effective aids to increased sales. Unless you are gifted with window dressing ability, or favored with the time and experience required to follow up this difficult art, you can safely rely on us to do your window dressing for you.



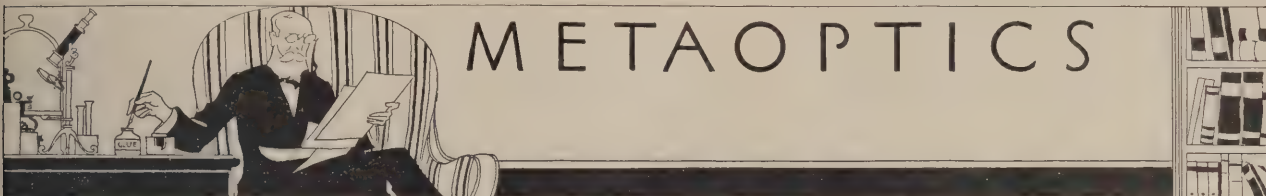
Sir William Crookes

The great English scientist, worked for six years to invent a material for eyeglass lenses that would filter the harmful ultra-violet and heat rays out of both daylight and artificial light. It will take us just about six seconds to show you what a blessed relief these wonderful Crookes Lenses are to tired, strained eyes. They absolutely prevent one of the most frequent causes of eye strain and headache.

DEALER'S NAME

4th week—No. 10A





METAOPTICS

NOTE: This is the seventh of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff will endeavor to make these articles simple, and interesting to everybody from month to month.

The Invisible Spectrum

(Continued)

WE now revert to the heat rays which were mentioned in our third article as part of the spectrum of light; a further study of these is now undertaken. To keep the discussion on a scientific basis it is better to call these rays by their scientific name—the infra-red rays.

Delicate Apparatus Tests Infra-Red Rays

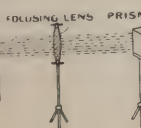
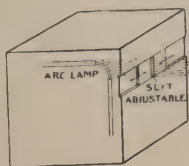
THESE infra-red rays can only be partly demonstrated photographically by means of specially prepared plates, but fortunately their presence in the spectrum can be proved by their heating effects. By means of sufficiently delicate apparatus this heating effect has been observed to extend for a distance about fifty times the extent of the visible spectrum. The ultra-violet spectrum has been explored from a wave length of .000004 inch to one of about .0000145 of an inch, at which point it merges into the visible violet which in turn changes successively to blue, green, yellow and red at a wave length of about .000029 of an inch, at which point the red merges into the infra-red, which has been explored up to a length .000944 of an inch.

Effect of Infra-Red is Heating

THE chief physical effect of these longer infra-red rays is that of warming the things upon which they fall and therefore the chief method of investigating and exploring them is by using some instrument which readily responds to very small degrees of warmth. For this purpose very delicate mercury thermometers have been employed, but the most delicate form of this instrument is not really sensitive enough for this purpose and the form usually employed nowadays is a kind of electric thermometer called the thermopile. These instruments are made sufficiently sensitive to detect a difference of .000001 of a degree centigrade.

The Sensitive Thermopile

THE thermopile consists of a number of minute strips of two different metals joined together at one end. When a slight heat falls on these strips a very small current is generated and this current can be led away by wires and made to affect a delicate recording instrument called a galvanometer. The galvanometer itself consists of a moving coil of copper wire which can rotate in the field of a horseshoe magnet. The amount of the rotation of the moving coil is directly proportional to the amount of current and the amount of current that enters from the thermopile is in turn directly proportional to the amount of heat falling on that thermopile. On the moving coil of the galvanometer is fixed a small mirror. If light from any lamp source is directed onto the mirror, this light can then be reflected onto a suitable scale, hence a very small movement of the mirror will result in a large movement of the spot of light reflected from the mirror onto the scale: the scale can be made in any size and any distance away from the mirror.



The accompanying diagram will show in a rough way how this apparatus can be set up and worked.

Heat Moves Beam Along Top Scale

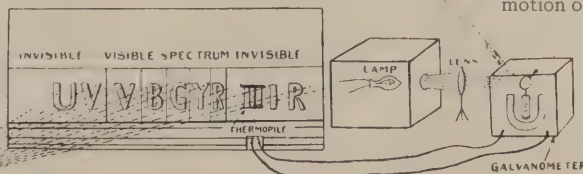
THE diagram explains itself. The scale is usually adjusted so that the cross wire of the spot of light comes to rest on the zero; then supposing the thermopile is in the ultra-violet region there will be no appreciable movement of the spot of light. However, on gradually sliding it along until one reaches the violet there will be noticed a slight movement of the spot of light, which will be increased as one proceeds with the thermopile through the blue, green, yellow and red, until, when some distance into the infra-red, the spot of light will probably fly off the scale, depending on how wide the slit in front of the lantern is.

For Infra-Red a Rock Salt Prism and Lens

JUST as in our examination of the ultra-violet we dispensed with the glass lenses and prisms and substituted for them lenses and prisms made of quartz, so now we find that we get a much larger heating effect, in other words, a much better infra-red spectrum, if we use rock salt for our lens and prism; and this is the material generally employed in the best instruments. When it is remembered that the only source of heat reaching the face of the thermopile is coming from the narrow slit in front of the arc lamp, usually less than a tenth of a millimeter wide, it can be readily seen how sensitive this arrangement is.

The Sensitive Crookes Radiometer

ANOTHER little instrument which is quite well known and very sensitive to heat is the Crookes radiometer. This was invented by the eminent Sir William Crookes about twenty-five years ago. It consists of a glass globe with the air pumped out and in it are delicately poised four small vanes; each of these has one side blackened. Now it is well known that a blackened surface is a good absorber of heat, whereas a bright, shiny surface reflects the heat. The heat that is absorbed is not lost because matter is indestructible, but it is transformed into motion and hence the black side of the vanes begins to move away from the source of heat. The result is that they each come successively under the effects of the source of heat and if that source be at all strong they will fly merrily around. This little instrument could therefore be used in place of the thermopile as a rough indicator as to which part of the spectrum is hotter. However, it is a peculiar fact that the amount of motion of the vanes does not always depend upon the wave length of the light that acts upon them, but it also



seems to depend somewhat on the nature of the surface of the vanes and the degree of vacuum in the bulb. Some radiometers revolve most rapidly in the bright part of the spectrum to which our eyes are sensitive. — H. T. REEVE.

Years of Experience Enlisted in Your Behalf

A JOURNEY in search of news led direct to White Metaldom, a little world owned and inspired by Foreman George L. Tully and 350 kin.

The famous blue cap was there and a keen Irish eye was cocked slantwise beneath it. Only the privilege of friendship and a sense of humor made the subsequent command a success.

"Trot out your best bet, sir! What've you got here to boast about?"

He galvanized into action. "Wait a minute," and back he came with 127

years' worth of seasoned veterans, four in a row.

When these men began, from 46 to 25 years ago the A. O. Co. was in its infancy, as it still is. White metal was then unknown in its modern sense. Steel goods were manufactured, but the optical industry had not then begun to split up into separate units, each one—gold, gold-filled or steel, etc.—being a separate business by itself. All lines were made under one roof, where now a multitude cover the AO departments.

Each one of these men has played his part in the making of all kinds and parts and finishes of optical goods. He has known the game from the ground up; has been part and parcel in the development of new machinery, devices, patents and ideas. In him may



127 Years of Service in AOCO

H. J. Jackson, 25 yrs.; C. Rose, 46 yrs.; M. L. Gardner, 25 yrs.; G. L. Tully, 31 yrs.

be noted at once the source and the strength of our splendid growth under the direction and impulse of farsighted executives.

To anyone who is interested in White Metal goods these facts are of interest because the slightest thought about growth and quality leads straight back inevitably to the organization that developed them.

In showing you four of the men who make up our White Metal organization we are not ignoring others who represent the vital spirit of the A. O. Co. like the two

who have shared the same bench for thirty-three years together. There are many more like them among our 350.

Somewhere in the recent past we heard that gold-filled was raising havoc with White Metal sales. It is an open secret with this department that it has never seen as busy a time in its history as the present.

"As long as they keep coming," "Pop" Tully tells us, "we'll handle the orders out here. They need never worry about us. We can take care of all of them!" Order your White Metal specs and eyeglasses now, or a few invisible eyewires or Amoptiscopes, from a concern that knows quality, lives it, preaches it and sells it. Ask your jobber.

Spend Your Christmas in Chains!

IF you have not already taken advantage of this handsome Christmas chain display offering, we are now taking the liberty of calling it to your attention again.

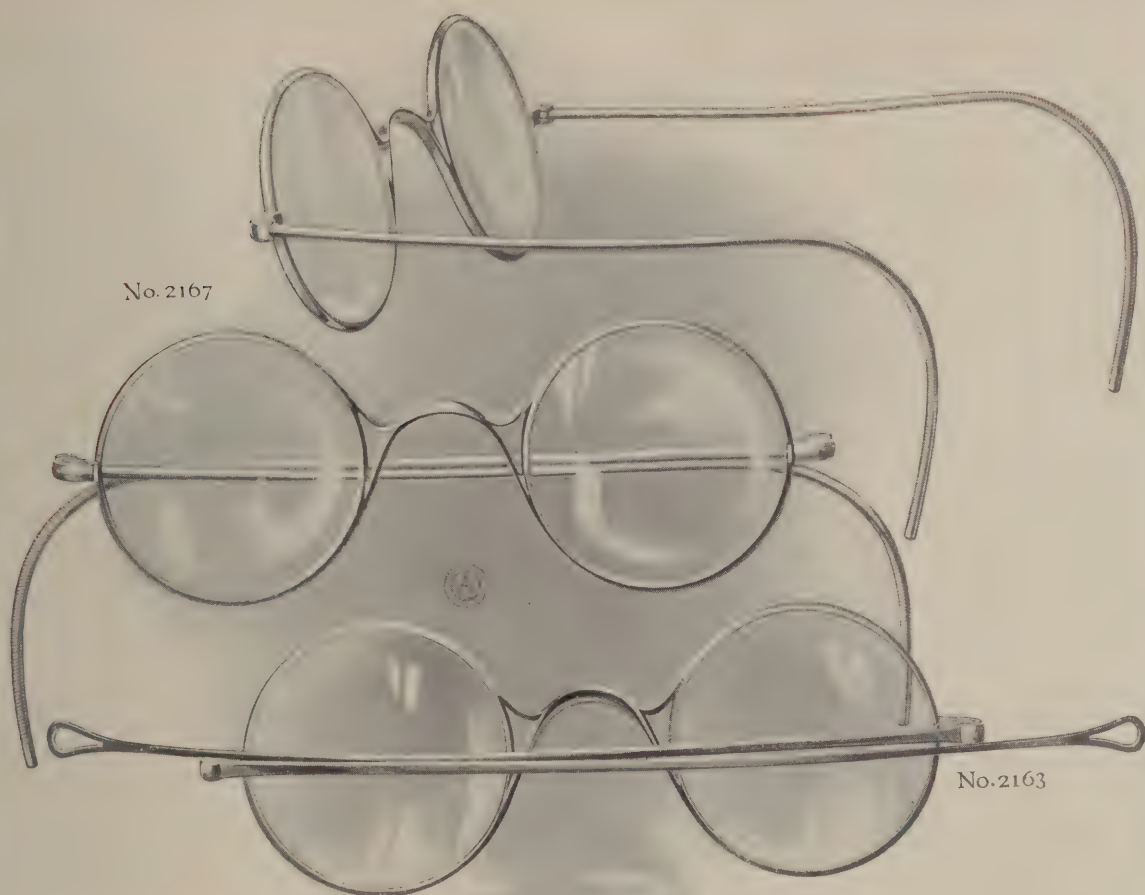
The set is sold complete only, but comprises every style known to be popular with the trade and public alike. In this display box are enclosed one dozen individual Christmas boxes with 6 hairpin chains, 3 cable earloops, and 3



wire earloops. The average retail price of chains is \$1.00 each hairpin chains \$1.25, earloops \$0.75 and \$1.00, all of which, therefore, you can sell for \$12.75; at \$3.50 the set to you they offer splendid profits. Each chain carries AO 1/10 12K quality. Order now before Christmas. We are just replenishing our original stock and

will give you excellent service. This has been one of the most taking features we've ever offered. We want you to profit by it immediately. In order to catch your Christmas trade order from your jobber now.

A Beautiful Christmas Combination for only \$3.50



“No Matter What Your Creed May Be—”

WHETHER it commits you to gold or gold-filled we feel sure the best satisfaction lies in dealing with a house whose every tradition promises the highest in quality.

For eighty-three years now we have been living, preaching and practicing the religion of quality, and not in vain.

Though we have grown, it is not our growth we take the most pride in. The “big thing” responsible for the growth, size and world-wide reputation of the AO Co has been its eighty odd years of insistence on Quality.

This is the spirit written into our trademark, so that when you “Look for

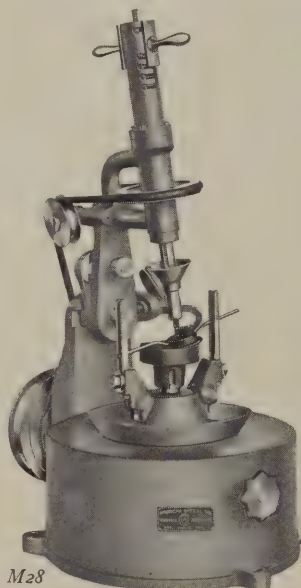
This Mark on the Bridge” you know you are finding there a responsible guarantee.

The man who appreciates the value of quality goods will buy our solid gold. He knows that it possesses qualities of temper, stiffness, color and finish that have never been successfully duplicated. If he is selling to a patient he knows that he is passing along satisfaction and making a better profit out of it at the same time.

At this time of the year, when you’re out with the rest of us for the Christmas business, choose a line of AO solid gold large enough to give you a neat holiday turnover. Why not an order on your jobber for these handsome heavy 14K Varsity spectacles, Nos. 2167 and 2163 in gold or silver?

“Look for This Mark  on the Bridge”

*Height 30". Bench Space required—13" wide
x 21" deep. Price \$125. F. O. B. Southbridge,
Mass., U. S. A.*



Sphericals or Cylinders

BOTH flat and toric; photographic objectives and instrument lenses generally, are all the same to this versatile Toric Machine. It grinds them all! The M28 is the Silent Knight of optical machinery. Its all-around, noiseless ability is approached by no other toric machine on the market.

Price, \$125.00

Ampoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. IV

December, 1915

No. 9

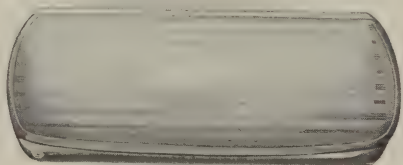




No. 5W22 Free

No. 705-15 is very popular and one of the "best sellers," beautiful design that charms by its simplicity.

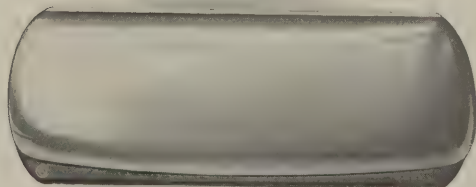
Engine Turned		Price, Each
325-15 Silver.....	Spectacle.....	\$7.75
715-15 Silver.....	Large Eyeglasses.....	7.00
705-15 Silver.....	Small Eyeglasses.....	6.75



No. 705-15 Silver, for Small Eyeglasses

No. 325 in the plain sterling silver design shown below.

Plain	Size	Price, Each
325 Silver.....	Spectacle.....	\$6.75
715 Silver.....	Large Eyeglasses.....	6.00
705.....	Small Eyeglasses.....	5.75



No. 325, for Spectacles

"Meet Me at the Sign of the Fits-U"

"I MUST get a pair of glasses and one of those sterling silver cases I saw in their window yesterday," says Mrs. Christmas Shopper over the phone.

No further directions necessary. The shop with the distinctive sign is the holiday meeting place of glass-wearing people.

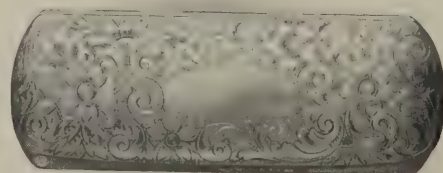
In its window at this time of the year are appearing the fine quality goods such as AO solid gold, in both white gold and the regular color, Crookes KeeLocks, Zylor readers in all finishes from white to ebony black, and sterling silver cases.

The AOCo sterling cases are exquisite combinations of the silversmith's art and practical utility. Inasmuch as the price of silver cases is determined by weight, a nicety of balance between light, easily dented silver cases and heavy, expensive types recommends our sterling silver cases above others.

Each AO sterling silver case has our famous flat top, beautifully tapered ends and gracefully shaped, deep toric mid-section. A very fine quality green silk velvet is used as a lining. Each size may be had in the three designs here illustrated—plain, engine turned and hand engraved. Each case has its individual cotton flannel bag. Order for Christmas now from your jobber.

No. 715-10 is an engraved design. In three sizes: No. 325 Spectacle \$8.75 each; No. 715-10, Large Eyeglasses, each \$8.00; No. 705-10, Small Eyeglasses, each \$7.75.

This style is ornate and attractive with space for monogram.



No. 715-10 Silver, for Large Eyeglasses



Glasses to Improve and Preserve the Marksman's Eyes

BY JOHN A. DONOVAN, M.D., Butte, Montana

Author of "The Dangers to and the Requirements of the Eyes of the National Marksman" and a well-known Eye, Ear, Nose and Throat Specialist

WE are rapidly becoming transformed from a nation of indifference to one of active preparedness. The National Rifle Association of America offers an opportunity to every citizen to avail himself of all the advantages of the regular soldier, as to rifles, ammunition and supplies at actual cost, without the obligations assumed by the enlisted men. Throughout the country both young men and old are enrolling in some local rifle association affiliated with, or else becoming members direct in, the National Rifle Association of America.

Interest in Marksmanship Keen

EVERYWHERE, interest in marksmanship is becoming keen. Unfortunately, many who are ambitious to become marksmen are handicapped by defective vision, while a still greater portion are prevented from ever reaching full efficiency on account of the exhausting strain on the eyes. This, we know, can be corrected and, in the great majority of cases, the severe strain upon the eyes can be greatly reduced, if not eliminated.

Bull's-Eyes Allow for Defective Vision

THOUGH normal visual acuity is most desirable for target shooting, the present targets supplied have a bull's-eye sufficiently large so that very good scores can be made on them by those whose vision may be reduced to even one-third of the normal. The diameter of the bull's-eye in present use is 8 inches for 200 and 300 yard targets, 20 inches for 500 and 600 yard targets, and 36 inches for 800 and 1,000 yards. For rapid fire it is proportionately larger. Our Snellen test type is on a basis of clear vision at 1' angle: this gives approximately a clear image of one inch for each 100 yards. Now we know that most people see clearly twenty-fifteenths (test type). This would make three-fourths of an inch at 100 yards but to allow for atmospheric conditions, changes in light, etc., the one inch standard is nearer correct. Thus our standard bull's-eye makes an abundant allowance for defective vision. On the other hand the most acute vision is an absolute essential for the hunter and all-around shooter—not only to get the game but to

prevent those far too numerous accidents where the only excuse is, "I thought he was a bear."

Causative Agencies of Exhaustion

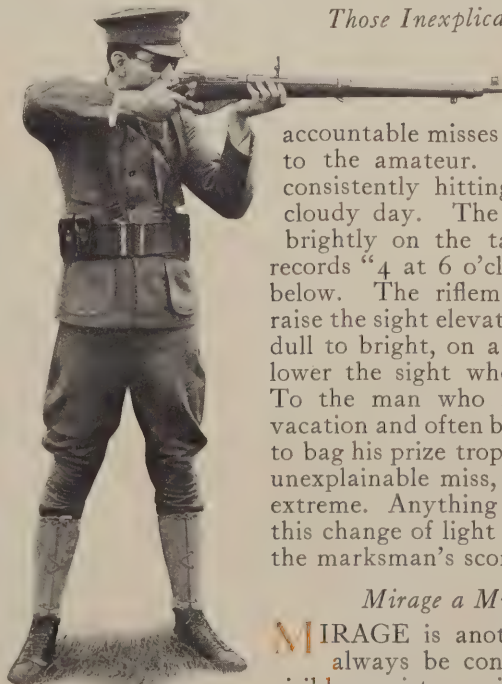
HUNTERS in the woods or the open, carefully searching everywhere for game, and more especially when hunting over snow and water, often experience an exhausted feeling which is not at the time directly attributed to their eyes, of a mysterious origin and rather disagreeable. If the sun is shining brightly this becomes not only disagreeable but intensely painful, so that occasionally one has to abandon his trip entirely. Snow blindness is too well known to require discussion here. Anyone spending some time in the North will appreciate the necessity of being fully protected from the glare of the sun on the snow and water. The same disagreeable sensations are complained of by those feasting on the grandeurs of our national parks, mountain scenery, etc. Everyone's pleasure and comfort can be infinitely increased if these sensations are eliminated.

Those Inexplicable "Misses"

EVERY marksman occasionally makes unaccountable misses which are inexplicable to the amateur. The expert has been consistently hitting the bull's-eye on a cloudy day. The sun suddenly shines brightly on the target and the marker records "4 at 6 o'clock," meaning a miss below. The rifleman's directions are to raise the sight elevation for the change from dull to bright, on a cold day, etc., and to lower the sight when conditions reverse. To the man who has but a few days' vacation and often but a single opportunity to bag his prize trophy, and who makes an unexplainable miss, the disappointment is extreme. Anything we may do to equalize this change of light will add materially to the marksman's score.

Mirage a Misleading Factor

MIRAGE is another factor that must always be considered. This is the visible moisture rising through the atmosphere, and, if allowance has not been





Wyoming—Author holding milk-fed bear cub

experienced by everyone who has ever spent a day on the open range or anywhere in the bright light. The invisible rays of the spectrum, the ultra-violet and even the shortest visible rays are largely absorbed by the cornea and crystalline lens of the eye. These produce a fluorescence and glow within the eyeball so as to resemble a luminous fog. The cornea begins to absorb the rays at about 360, and completely absorbs them at 300. Rays between 400 and 370 participate in the fluorescence of the lens. If intensified, a degenerating process occurs which will also affect the retina. A very full account of experiments in this work was published by *Ophthalmology*, Vol. 10, No. 3, from which quotations are made here. These short rays accelerate fatigue of the eye and if prolonged or intensified are followed by such symptoms as heavy lids, burning pressure, scratching, watering eyes, conjunctivitis, etc., thus making further use of the eyes intolerable.

Indoor Shooting Conditions

ANOTHER method of shooting recently adopted and necessary for those living in cities is the indoor range, lighted with artificial light. Unfortunately, this adds another deleterious factor to the already excessive demands on our eyesight. But marksmanship has improved so rapidly and such a high degree of proficiency has been attained in it that we should use every effort to eliminate the injurious effects. Scores that only a few years ago were considered impossible are now being made all over the United States by indoor teams. Excessive light on the target is a mistake; also, the necessity of having the whole hall uniformly lighted should not be overlooked. The eye, constantly looking from a bright light to a considerably darker room, will rapidly fatigue. The standard target in use has $1\frac{1}{2}$ " bull's-eye. Bullets cutting the inner circle one-half inch in diameter count 10, the 9 and 8 rings also being included in the black bull's-eye. Though at first this appears easy, the man who lies rigid, attempting to get each shot into the 10 ring, soon realizes the necessity of giving his eyes the most careful attention if he expects to maintain his record long. Of the members of the first team to make winnings in this series, not one could now be induced to repeat his experiences largely on account of the terrific strain on the eyes. Nowadays we look back on our experiences as largely due to conditions of lighting that should have been corrected.

Shooting Position Unnatural One

THERE is now but little room for discussion of the theory that all people requiring correction for visual defects should constantly wear the full correction, but, in actual practice, many still prefer temporary relief to the annoyance of constantly wearing glasses. Also, if the error is not great; the slight blur incidental to a use of a little accommodation when full correction is on sometimes results in the patient discarding his glasses. But in addition to this, in shooting, the relative position of the head while taking aim is much different from the position in which the eyes were tested. Thus, in looking through the glasses obliquely, the strength is not only greatly altered but the sphere becomes a cylinder and a prism. The sharpshooter or expert lies flat on his stomach, head facing the target, rifle supported from elbows, and unless the glasses were fitted accordingly he looks entirely over the upper, inner edge of them or else looks obliquely through the edge. This so much distorts the effect of a cylindrical correction that often it must be turned from its original axis. To overcome this, a round lens has an advantage, as the shooter is able to rotate it in his frame until the edge of the target and sights are perpendicular in the shooting position. Also the lens must set high and close to the nose. Some men, shooting ordinarily a good score, wearing fully corrected lenses, will fail entirely in a match and will complain constantly of blur. This is due to the shooter's over-anxiety to see clearly, using his accommodation and thus producing a temporary myopia. This is so common that no less an authority than Dr. Hudson advises that the glasses be worn constantly until firing begins, and then discarded. A better way would be to substitute the full correction for a partial correction during the actual time of firing, with the proper color in the lens. If the shooter will learn to keep both eyes open, besides the advantage of having a clear field of view all around the target, he will at the same time be less likely to strain to see the bull's-eye, thus not producing this myopia. In shooting at moving objects this increased field of vision is essential for the most successful results, and the habit is easily acquired by the beginner. It is not easy for the old timer, but he can do it.



Buffalo in the Yellowstone

The Advantage of the Peep Sight

THOSE of you who have brought your patient's defective vision up to normal by simply having him read through a pinhole disc will not underestimate the advantage of using the peep sight. But it is not generally appreciated that different sized apertures are essential for different degrees of light. The advantages of the peep sight are appreciated by those who have long used open sights, and this should be explained to those whose vision begins to fail. Though present regulations in national matches prohibit the use of glass in the sight, yet in the writer's opinion, for those who require a high correction and especially in high astigmatism, the correct lens should be fixed in the rear sight. The problem of making the shooter see both the target and the sights at the same time appears to be unsettled as yet in the minds of some. However, for the presbyope who will use a peep sight, the greatest efficiency will be obtained by correcting him for distant vision, or better still, by giving him toric bifocals, using the upper part in shooting. For a full discussion of this, the reader is referred to the paper "Dangers to and Requirements of the Eyes of Marksmen," by Donovan, in the *Journal A.M.A.*, Vol. LIX; also to "Eyes of Soldiers" (which discusses colored glasses) by Dr. Nelson M. Black in *American Encyclopedia of Ophthalmology*, Vol. VII.

Elimination of Certain Glasses

THOUGH ordinary glass absorbs sufficient of the ultra-violet rays to be of itself a great assistance, yet in all the conditions previously referred to some other quality of glass is essential, not only for the comfort but for the full efficiency of the marksman. Amber glass, once lauded for the purpose, has been abandoned by many of the experts. It distorts colors considerably if used in dark enough shades to be effective, it is a detriment in poor light, and in hunting must be removed after sundown or in the thick woods. This necessitates carrying constantly an extra pair of clear glasses. A deep smoke is of assistance on the snow, but this not only reduces the distinctness of the object but also reduces greatly the clearness of the sight, and if black sights are used, as is the rule, eliminates the contrast between them and the object. Amethyst glass, though it has in some cases proved to be advantageous to the hunter, has the same objection as the amber.

Noviol Found Advantageous

THE writer, on his trips into big game territories, has pretty thoroughly tested most of the glasses offered to the outdoor sportsman, having one by

one abandoned them. On his last two trips into big game countries he has worn the medium shade Noviol. Last May, while crossing a mountain pass in the Hoodoo Mountains, Wyo., at an altitude of 10,400 feet, we spent two days getting over, or rather through, perpetual snow. At this altitude not only the naturally excessive ultra-violet rays are noticeable, but combined with the intense reflection from the snow they are at a maximum. Though possibly in intensely reflected snowlight the darkest shade of Noviol would be ideal, yet there was no inconvenience experienced at all with the medium shade. The one particular advantage in which these lenses surpassed all others used was in late evening and in stormy weather. They not only absorb the ultra-violet, but part of the blue. Thus in twilight, the game—almost invisible against the bluish or green back-

ground—stands out conspicuously, so that by using the larger aperture sight a shot is easy and certain long after the object would be indiscernible with the naked eye. On the rifle range the medium shade not only equalizes the light and neutralizes the reflections from the front sight, but on a cloudy day

the bull's-eye stands out in distinct contrast to the rest of the otherwise blurred target. In the dazzling sun, the glow within the eye is eliminated and the yellow, dust-laden atmosphere becomes transparent.

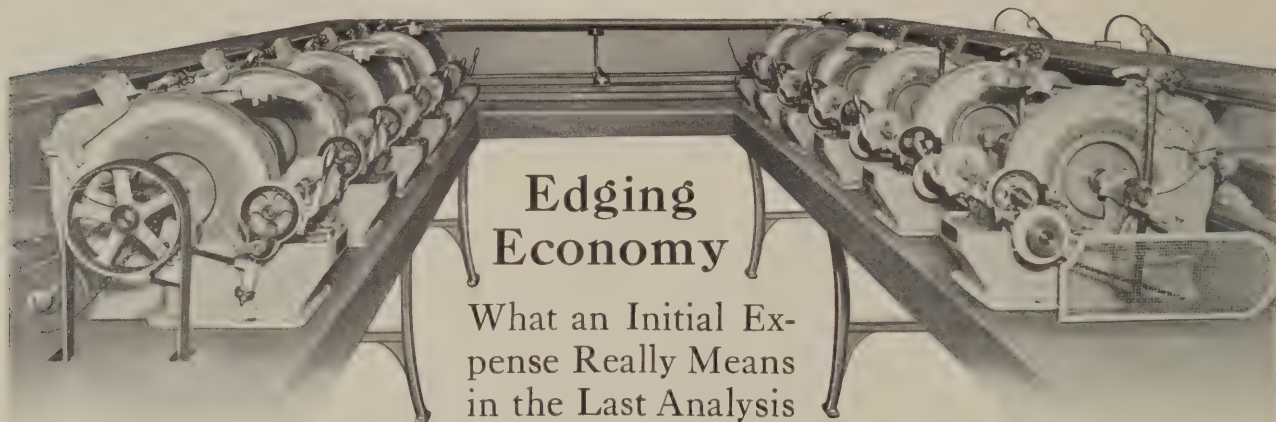
Noviol a Necessity in Electric Light

IN electric light shooting, to prolong the efficiency of the eyes, it is almost a necessity. One thing, however, should be insisted upon. The marksman should put on the glasses on the morning of the shoot and keep them on, so as to feel thoroughly at home in the new surroundings in which he finds himself. In the far North, where the low sun often interferes with your sighting, Noviol will prove of much assistance. In addition to the usefulness of Noviol in increasing visual acuity, it, in common with any other glass, will be of very great value in protecting the eyes against powder burns, back-fire of little pieces of cap or metal, accidents yet far too common with the majority of our .22 calibre and other rifles, especially when using smokeless powder. The glass also protects the eye from splinters of lead or metal in revolver practice.

When glasses will no longer bring the eyes to par or when long range shooting or extreme accuracy is desired, a telescope sight becomes a necessity. To obtain a bright light and a large field with good practical magnification, the writer suggests one of approximately four power. Even with this, the medium shade Noviol spectacle, toric shaped, will prove advantageous.



Pack outfit, with guides, camped in Montana



Edging Economy

What an Initial Expense Really Means in the Last Analysis

Some New Facts About our M72 Automatic Edgers

SPEAKING of scientific management, what do you know about this installation of twelve AOCO M72 Automatic Rimless Edging Machines in Merry's Rx Edging Department, Kansas City? Six machines on a side to save unnecessary steps. Everything complete down to lighting.

Tremendously expensive? Remember, this is a big shop and that one man runs the whole battery of twelve machines. How long would it take this man or how many additional men and salaries would be necessary to do the work of these twelve machines by hand or even on less efficient edging machines?

But suppose we take just *one* of these M72's for the sake of illustration. Let's get down to brass tacks and figure out just how much is economy and how much is expense with these great edgers.

So let us find the cost per hour of operating and maintaining an M72 Automatic Rimless Edging Machine.

First we will find the cost, or value of the M72 installed:

Invoice Value.....	\$156.25
Stand for the same.....	15.00
Motor and fitting.....	50.00
Freight (500 lbs. sent 500 Miles).....	3.00
Cartage from R. R. to shop.....	1.00
Installing.....	3.00

Cost or value installed.....\$228.25

1. We will now *conservatively* estimate that at the end of six years we will desire to replace this machine, perhaps with an improved design. The machine, however, will not be worn out and may be used for many years after this.

2. We will allow for interest (6%) on this investment, to exceed what our money would earn if left in the bank.

3. We will figure power to operate the $\frac{1}{4}$ H. P. motor for eight hours per day for 300 days each year, at a high rate—10c kilowatt hour. If the actual rate is less than this high rate, then the saving will be proportionately greater.

4. We will allow *liberally* for Repairs and Replacements.

Thus in getting down to our cost per hour basis we arrive at the following factors or items:

a Reserve for Depreciation @ $16\frac{2}{3}\%$ yearly....	\$38.05
b Interest at 6% on Investment.....	13.70
c Power for 2400 hrs. (300 eight-hour days) \$.10 per K. W. H.....	45.00
d Repairs and Replacements.....	10.00

\$106.75

For six years items *a* and *b* will be earned and set aside. Items *c* and *d* represent a *liberal* allowance for expenses which we will pay out as long as the M72 is in operation.

Now then, the only factor remaining is the number of hours the machine is actually running.

Our MACHINE COST PER HOUR depends on the number of hours in use:—

1. If 300 working days x 8 hrs. per day = 2400 hrs.
2. If 300 working days x 6 hrs. per day = 1800 hrs.
3. If 300 working days x 4 hrs. per day = 1200 hrs.
4. If 300 working days x 2 hrs. per day = 600 hrs.

The MACHINE COST will be:

- | | |
|---------------------|---|
| 1. \$.0445 per hour | |
| 2. .0593 " " | } Less saving on items <i>c</i> (Power), and <i>d</i> (Repairs and Replacements). |
| 3. .089 " " | |
| 4. .178 " " | |

Arriving at this conservative conclusion it is therefore seen that what appears at first to be a great expense and no profit, in the last analysis is the most economical and profitable. Because, on a cost per hour basis, comparison of the M72 with the additional time and higher wages required to do the work by hand, clearly shows the advantage of the machine by at least 7c per hour.

And when we take not one, but two, four, six, eight or twelve of these M72's and use the same man to run them the additional saving in power, time, wages and such is still further emphasized.

Where it is considered necessary or advisable to reduce the initial investment, or where one M72 would be needed only two hours a day over a long period of time, the M75 Young American would serve the purpose satisfactorily. Both AOCO machines have revolutionized rimless edge grinding and the M75 for the small shop is the most efficient machine for this purpose on the market today, regardless of price. The M72 American sells at \$165.00. Its smaller brother, the M75 Young American is \$70.00; with motor attached, \$120.00.

The above large shop equipment shows the convenience and neatness of arrangement of a great battery of these M72 machines. In the hands of one operator who is obliged to take no unnecessary steps they are great time, cost and labor saving devices. Send for our Machinery Catalogue.

Twice Told Tales About Our London Director



YOU can say without any fear of contradiction" said a long-time acquaintance of James P. Petherick, the London Director of the AMERICAN OPTICAL CO., LTD., "that he is one of the hardest workers and positively the best informed man on practical business optics in Europe today. He is invariably obliging, courteous, and

thorough, as his correspondence will show," and I found this was true. Letters picked at random from our London correspondence are invariably couched in the felicitous English so typical of British business communications in contrast to our formal, perfunctory American correspondence. The graceful, deft touch that gives the English business letter its spirit of sociability is an accomplishment happily possessed by Mr. Petherick.

"It takes an Englishman," some one has said, "to endow the most serious business affair with a certain atmosphere of sociability that makes you feel that he enjoys business primarily for the game rather than the money."

If his letter happens to contain a matter of very particular importance it often assumes the bulk of a voluminous report. For it is said by all who know him that when "King James" Petherick goes into a subject he exhausts it.

Among his many business qualifications none stands more clearly to the front than his keen, sound judgment in optical affairs. As we have said, he is considered by those well qualified to pass judgment as undoubtedly the best informed practical optical business man in Europe today. That this is so is evidenced by the frequency with which his friendly counsel about business affairs is sought by the European trade. When he has exhausted his subject with characteristic grasp of detail and broad outlines, whether he is making a report to the Home Office or advising a customer, his recommendations are usually accepted as the last word on the subject.

The ability that has won him the confidence and esteem of many hundreds of optical friends the world over was first discovered by the late George W. Wells in 1904. At this time the American Optical Company had decided to establish a European branch. The late Mr. Wells made a special trip to Europe. In searching for a manager he was told of Mr. Petherick, then London representative of J. B. Jacquemin Bros. of Morez de Jura, France, by whom he had been employed for seventeen years.

As a result, a year later the European branch of the AMERICAN OPTICAL COMPANY was opened in London—on January 1, 1905—in a small room filled with sample trunks and presided over by James P. Petherick, manager and sole employee.

Ten years under Mr. Petherick has seen this small beginning grow into a separate limited company acting as AOCo agents, with a prestige and clientele enjoyed by few agencies. In that period the one-time office has grown from one sample room to the building of the AOCo, Ltd., London, and a staff of twenty-five assistants. At the conclusion of the great twelve months' sales contest just ended, Mr. Petherick of the London American Optical Company, Ltd., was awarded the Grand Prize of a \$1,000 automobile for the greatest percentage of increase in sales.

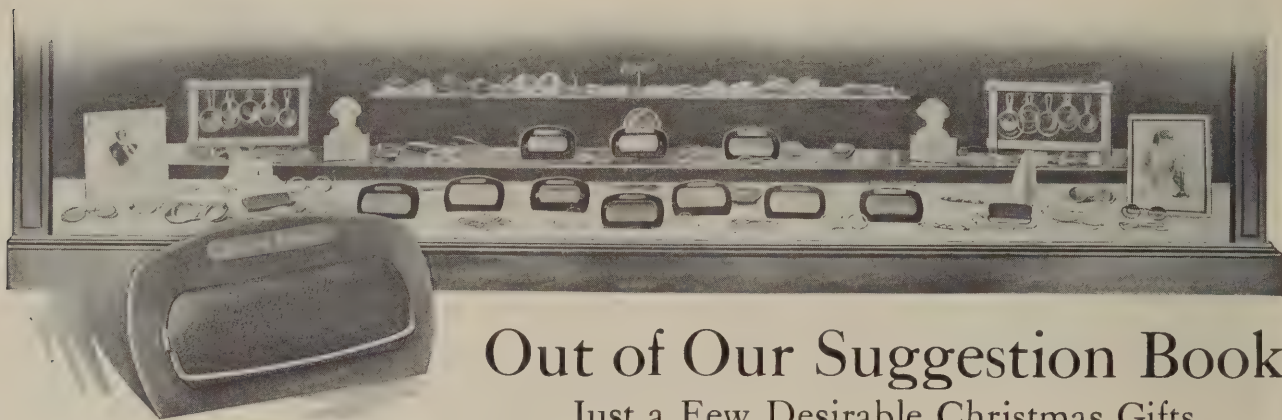
This, in brief, is the record of a strong, constructive personality gifted with an extraordinary capacity for hard work, detail and the executive ability to work out a farsighted business policy.

Splendidly interpretative of the personal regard in which Mr. Petherick is held by the European trade is the general praise sounded wherever his name is mentioned. Our English cousins, who once thought us unsympathetic with their point of view, will not be surprised to find us united with them in our estimate of the delightful personality of J. P. Petherick. "King James" is the pet trade name that has long since branded him a good mixer. The keen, tactful and sympathetic insight into human nature that adds to his unusual capacities is the final reason for his most unique position in the hearts and minds of his European and American friends. He is a diplomat in the best sense.



James P. Petherick was born in 1865 at Swansea, Eng. He was educated privately, also receiving an optical education and attending the Northampton Institute, London. He holds a diploma of the Guild of the Spectacle Makers Company of the City of London. In 1882 he began an apprenticeship of three years in the optical trade at Hereford, England. About the year 1887 he began with the J. B. Jacquemin Bros. Ltd., later becoming their London representative. He remained with them seventeen years, until he opened the first European office of the AMERICAN OPTICAL CO. on January 1, 1905, in London.

When asked what details about his career he considered of interest he characteristically replied, "Thirty-three years of hard work in acquiring optical knowledge and still learning." This is the widely and intimately known Director and Secretary of our European agency. We join with his many friends overseas in wishing our loyal representative continued prosperity and the greetings of the Christmas season.



Beautiful Green Velvet Window Pads

Out of Our Suggestion Book

Just a Few Desirable Christmas Gifts

WITH this issue the campaign for increased holiday sales strikes into its final stride.

The concerted effort to overcome the ancient superstition that Christmas is a season of small sales and dull business is proving that well-directed and consistent effort will bring results.

Our holiday campaign of dealers' newspaper ads featuring the Christmas Gifts idea, our window displays emphasizing holiday thoughts of optical goods and the new Christmas folder with its Yuletide suggestions have carried the message that "Optical Gifts are the Best Christmas Gifts" for the first time in the history of the optical business.

Those who have stood solidly behind this movement are now experiencing a revival of Christmas business. In the four weeks that now remain every effort should be bent towards the promotion and merchandising of optical goods as *Christmas Gifts*.

Start Your December Ads Running

As we begin the month of December our dealers' Christmas newspaper ads should be running weekly in your local paper until the season ends.

Send Out Your Christmas Folders

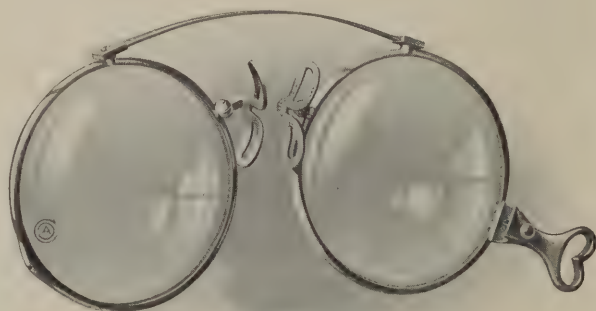
Simultaneously the Christmas folder No. 17F8 with its gift suggestions should be sent to your mailing list during December.

Call Attention to Your Xmas Goods

Over the fitting table the clerks should be instructed to call attention to this folder and the many desirable presents your line has to offer to the Christmas Shopper.

Dress Up Your Christmas Window

The shop window should be dressed up in holiday attire by night and day, carrying the persistent message that "Optical Gifts are the Best Christmas Gifts."



Patented

The Solid Gold Varsity is an Ideal Christmas Gift

Either our window suggestions in this issue or your own original ideas will give you an effective Christmas display. If "the eye is the window of the soul," then by the same token your window is certainly the soul of your shop's effectiveness. In these pages, therefore, we are offering some Christmas suggestions in actual merchandise put up in holiday boxes.

Green Silk Velvet Display Pads

The first is the sterling silver case on beautiful green velvet window pads. There is no time for the sale of sterling silver cases like the Christmas sale. At a time like this people want the best at a



The Year-Round Combination for Snow and Sun Protection



No Library Table is complete without a Reader

fair price. To display these cases with the utmost effectiveness there is nothing quite so useful and pretty as our green silk velvet display pads with your name in gold on them. These pads can be used to display any of our cases and serve a year-round purpose. A set of ten of these pads without cases, with your name imprinted on them in gold, costs \$4.50.

Why Not a Pair of Glasses?

The eyeglass or spectacle advocated at all times as the preserver of eyesight is logically the most precious of Christmas gifts. Why not present your patient with a blank card to be filled out on the Christmas tree for a Crookes KeeLock Fits-U for mother or father? Why not suggest that you can give your patient any combination of glasses for his or her relatives within certain price limits? Or the opportunity for suggesting glasses as presents can be taken advantage of by sending personal letters or our Christmas folder to your patients. AO Varsity eyeglasses and spectacles, the Fits-U, the Sharkgrip, KeeLock, Crookes or any of our famous glasses will make excellent gifts. Suggest them over the fitting table.

Motor and Snow Glasses are Welcome Gifts

A gift coming well within the means of the average Christmas shopper is our moderate-priced colored set in Christmas boxes illustrated here. This set of one dozen spectacles and three eyeglasses in fifteen individual Christmas boxes is a quick turnover and a



"A chain to save your glasses is as indispensable as the hook you hang your hat on"

fine self-selling proposition at \$5.25 the set. The glasses are excellent for motoring or against the glare from snow and sun. They comprise seven styles and fifteen numbers of our "best sellers" in the Roadsters, Shelloids and Eclipse lines and carry a year-round usefulness.

Zylo Readers from Ivory to Ebony Black

The Zylo reader has too long been a fixture on the family table to need much further introduction. Additional comment tells of the increasing beauty which ivory, mottled amber, dark shell and ebony black finishes have given it over the dusty black readers of our forefathers. They make exquisite and economical Christmas gifts. The stand, without readers, is \$1.25. The readers cost:—

Cat. No.	Focus	Diameter	Per Dozen	Per Dozen
			Ivory, Black or Dark Shell	Mottled Amber
R5952	+10.	2 inch	\$11.25	\$12.00
R5952½	+8.	2½ inch	15.00	16.25
R5953	+6.50	3 inch	18.00	19.50
R5954	+4.	4 inch	27.00	28.50

Eyeglass Chains Appeal to Many

Our Christmas Box of eyeglass chains has had a remarkable sale. We have had to replenish our stock



Patented

A Christmas with KeeLock spells comfort and security

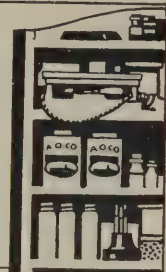
for reorders and December will see a final rush that will clean us out flat. This combination of six hairpins, three cable earloops and three wire earloop chains in a holiday box for the counter has sold more holiday chains in the past three months than ever

before in our history. The trade is delighted with it. Order immediately to get early delivery, at \$3.50 the set, AO guaranteed quality.

No orders can be received after December 12.



Practical Talks with the Shopman



EDITOR'S NOTE: These articles are the first two of a series of five Talks on Surface Grinding and Polishing by R. L. Gordon of our Optical Equipment Division. The subject will include interesting and instructive articles each month on: 1. The Nature of Optical Glass; 2. The Materials Used in Grinding and Polishing; 3. The Machinery and Tools Needed for Surface Grinding and Polishing, together with notes on the proper care of the same; 4. Methods used in Grinding and Why; 5. Methods of Grinding Special Lenses, such as Kryptoks and Ullex One-piece Bifocals.

I. The Nature of Optical Glass

II. The Materials Used in Grinding and Polishing

BEFORE describing the operations of grinding and polishing lenses let us first examine the materials with which we are to work, so as to obtain a clearer understanding of just what is happening. In this way we may be assisted in reasoning out for ourselves some solutions to the many perplexing problems which arise in the actual prosecution of this kind of work. There are so many things which interfere with the attainment of perfect results in surface grinding, that it is well to consider all of the details quite carefully, so that when things do go wrong the difficulty can be located.

Too often the emery or the rouge or the machine is blamed when the fault lies elsewhere. We will therefore first consider the properties and peculiarities of optical glass itself.

Optical Glass is Amorphous

In substance optical glass, as the physicist calls it, is amorphous; that is, it does not crystallize like salt, sugar and alum, nor has it a grain like wood. It does not crush into regular shapes and forms, nor does it split along certain lines of cleavage. When

heated it becomes liquid and can be moulded into various shapes or rolled out like pie crust, the way plate glass is made. It is a well-known fact that the sharp edges left when glass is broken can be easily melted down into smooth, rounded form by the application of a comparatively

small amount of heat. Glass, in other words, has a surface flow under heat.



In many ways glass resembles pitch and ice. If a piece of ice be broken in cold weather, many sharp projecting edges are to be seen. By rubbing the fingers over these edges the heat of the body melts the ice, which runs down and freezes again on some other part and the corner is left smooth. In like manner, by rubbing briskly the corners of a piece of hard pitch the heat produced by the friction will also melt down the sharp edges until a smooth surface is formed. In a very similar manner glass is also polished by the heat produced by the friction of the lens against a piece of felt, pitch or other material which has previously been covered with rouge. There is possibly also an action by the rouge corresponding to the abrasive action of the finer emery.

Fine telescopic lenses are actually finished to their final accurate surfaces by rubbing portions of the lens with the hand itself. Spectacle lenses are ground by holding them against a lap or tool which revolves rapidly, and on the surface of which is placed an abrasive material.

II. Materials Used in Grinding and Polishing

Sand and hardened steel chips have been used for this purpose, but the best materials are either natural or artificial abrasives commonly called emery. This word strictly applies only to a natural product found in the earth. Present-day manufacturers have found means for manufacturing a variety of different substitutes for emery called by a number of trade names, and of more or less merit. These small granular particles of emery being harder than the glass itself, roll about between the tool and the glass and actually chip the surface of the glass very much as a stone-cutter chips the surface of his block of marble. Examination of this glass with a microscope reveals the fact that it is full of tiny holes chipped into the surface by the abrasive.

Naturally, therefore, coarser abrasives should be used at first and finer ones later on until the last fining emery leaves the surface with a dull, eggshell gloss. If fine emery is mixed with the coarser grades it can, of course, do no work, and conversely if one coarse grain gets into the fine it is going to spoil all the smoothing effect of the other grains and scratches or pits are produced in the lens. It becomes, therefore, a matter of grave importance that abrasives of uniform grading should be used.

THE AMERICAN OPTICAL COMPANY, in producing the immense quantities of lenses that are daily manufactured by it, is forced, for its own protection, to use the greatest care in selecting and grading the abrasives it uses. Hence, the average surface grinder will find it to his advantage to use the abrasive materials put up by this company.

The peculiarities of the individual in grinding, as well as other considerations, have caused this company to list a number of different grades of fining emery, as 302, 302½, 303, 303½, the latter being an extremely fine finishing abrasive, used principally for Ultex Onepiece and high class instrument lenses.

Cleanliness in Surface Grinding

From the above explanation it is needless to point out the necessity of keeping these various grades free from mixing with one another or with dirt or other gritty substance. Cleanliness in surface grinding is one of the prime requisites. A detailed account of the practical methods of grinding will be given in a later article.

When the lens has been ground to as fine a surface as is possible, the tool and lens are cleaned of all traces of abrasives. The lens is then held against a cloth covered with rouge and cemented

to the tool. Pressure is brought to bear sufficiently to cause the lens to heat. The high spots are smoothed or smeared off to fill the minute depressions and a few minutes of this rubbing action should be sufficient to produce a high polish. It is almost unnecessary to point out that the ease with which the polishing is done and the beauty and accuracy of the polished surface is largely dependent on the quality of the surface left by the final smoothing emery.

When is the Lens Polished Perfectly?

Probably the most difficult part of this whole operation is to know when the lens is perfectly polished, and this can more easily be learned by examining the lens very frequently during its final polishing process. This is best done by holding the lens under an artificial light. An incandescent lamp

or burner is probably the best light. A carbon filament electric light is much superior to the modern Tungsten for this purpose. At first the operator will find it quite easy to focus his eye on the partially polished surfaces, but as the finish becomes better there is a possibility of his looking through the glass and focusing on the under surface of the lens and he thus fails to find the imperfections in the surface being polished.

It is a very difficult matter to explain when a lens is perfectly finished. The lens should be held between the light and the eye so that the eye will not see the light itself, and in order that the reflection will be from the under surface. This illuminates the lens *behind* the surface to be examined and if the eye can focus on the nearer surface, imperfections can be detected.

The writer has found it of considerable assistance in this focusing to dust a little lint from his handkerchief on the surface, and then, having found the focus, to blow the lint away.

The Use of a Small Amoptiscope Helps

Breathing gently on the lens so as to produce a cloudy film is a common practice which serves the same purpose. The use of a magnifier such as the smaller of the Amoptiscopes will aid the beginner greatly, and should be handy for inspection purposes around every surfacing bench. Flat lenses are quite easily inspected but the deeper minus lenses are very hard to examine.

If the lens has been imperfectly "fined," pits and scratches will show up when polishing first begins; if slight, these will soon be smoothed away. If deep, they *can* be polished off, but this is bad practice, as in reality the glass is rubbed over the holes or scratches and may reappear later if the lens is washed with strong soaps or lye. A great deal of this kind of work is done, but it is not to be commended.

Our next month's article will deal with III. The Machinery and Tools Needed for Surface Grinding and Polishing, together with notes on their proper care.



Rough Optical Glass Blanks

KeeLock The Screwless Lens Mountings With the Bulldog Grip

Patented

THE evolution of the KeeLock is the evolution of types that have gone before it plus the application of some new and radical features.

In the KeeLock are found the slotted lens, the metal wedge and the principle of uniting one with the other permanently with cement. These are features characteristic of the "gone before" types.

In structure, in the method of slotting and mounting and in looks the KeeLock, however, presents some new and radical advantages over preceding types.

Structurally, it was designed to get the maximum of holding power in a minimum of space. At the same time its appearance and the economy of being able to adapt it to old drilled lens stock was a strong consideration.

To obtain this combination of distinctive features in one cement mounting therefore, a specially designed key or wedge was conceived.

This key, is based on the dovetailing principle of one wedge settling in the slot and the cement settling to form a second wedge behind the metal wedge. A shoulder on the KeeLock keeps the wedge straight in the slot so that no metal touches the glass at any point. The Lenstick cement thus acts as a rigid cushion between the metal and the glass. The KeeLock is immovable.

When a drilled lens is used a still larger surface is available for the cement, while the KeeLock safely covers the hole and makes for economy. By rounding the corners of the lens

at the slot entrance, chipping of the lens is avoided.

The KeeLock strap is also easily widened and narrowed to fit thick or thin lenses with special pliers. The strap is likewise specially bent for torics and the SS bridge stud box or other constructions.

In appearance it is without question the most attractive of all cement mountings. It is inconspicuous and the sparkling beveled facets give it a very stylish appearance.

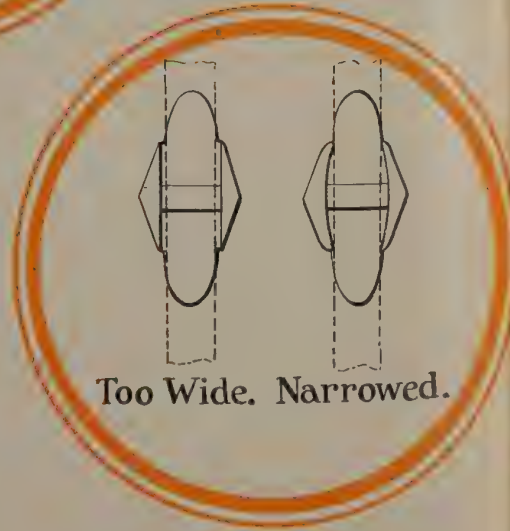
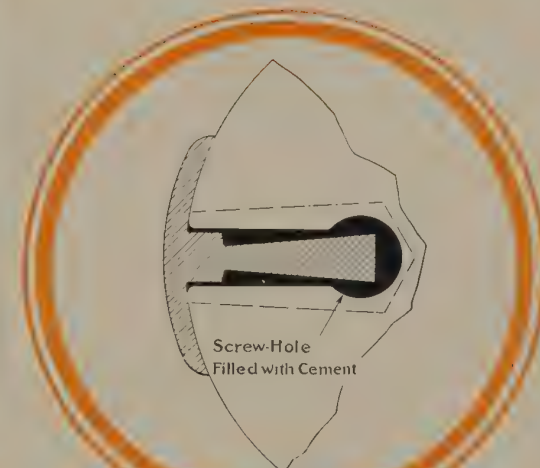
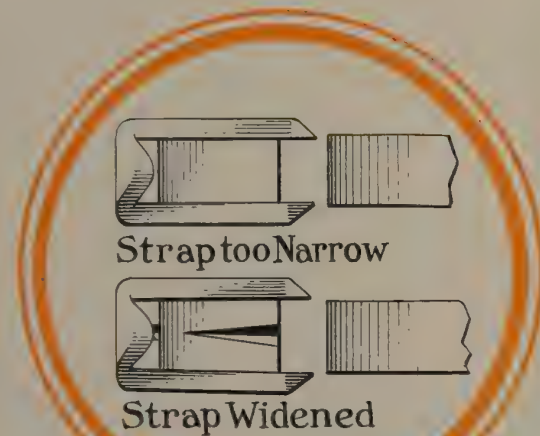
To find a mounting with the strength, simplicity and attractiveness of the KeeLock; to be able to produce this combination through elimination of the cumbersome, conspicuous or non-holding features of other types has been a remarkable achievement.

As time goes on KeeLock will be the cement mounting you will eventually buy. It will convince the most skeptical that it does all we claim for it. The day of the loose lense passed with the appearance of the KeeLock on the market.

Investigate our claims. If doubtful, give the KeeLock a fair trial. Many have been won over to it in this brief time. Your jobber has it.

Tools and Materials for KeeLock Lenses

M 88 B	Belt Driven Slotting Machine, each..	\$20.00
M 89 M	Motor Driven Slotting Machine, each	25.00
M 270	Special Composition Wheel for slotting KeeLock Lens.....	.35
M 271	Special Composition Wheel for chamfering corners of slotted lens.....	.35
M 187	Pliers for lessening width of KeeLock cement straps, each.....	1.25
M 188	Pliers for increasing width of KeeLock cement straps, each.....	1.25
M 322	Lenstick Cement in glass jars, per jar.....	.50
M 280	KeeLock Fits-U Protectors for Zylonite Guards (for protecting Lenses in Cement Strap Mountings), each.....	.15



GOLD		Per Dozen
7098 1/4	10K KeeLock Riding Mountings.....	\$26.70
7098 1/2	10K KeeLock Riding Mountings.....	31.95
7098 3/4	10K KeeLock Cable Mountings.....	36.70
7098 1/2	10K KeeLock Comfort Cable Mountings.....	41.20
Special Invisible Endpiece		
7098 1/4	10K KeeLock Riding Temples complete.....	16.35
7098 1/2	10K KeeLock Riding Temples complete.....	21.60
7098 3/4	10K KeeLock Cable Temples complete.....	26.35
7098 1/2	10K KeeLock Comfort Cable Temples complete.....	30.95
7098 1/4	10K KeeLock Bridges complete.....	10.60
7611	10K KeeLock Fits-U Spectacle Mountings, 7098 1/2 Temples.....	31.70
7611	10K KeeLock Fits-U Spectacle Mountings, 7098 1/2 Cable Temples.....	41.70
7611	10K KeeLock Fits-U Spectacle Mountings, 7098 1/2 C C Temples.....	46.30
7611	10K KeeLock Fits-U Spectacle Bridges.....	15.35
07112	10K KeeLock Fits-U Ovalax Mountings.....	18.50
07112	10K KeeLock Fits-U Ovalax Mountings, inset or outset.....	20.50
7893	10K KeeLock B Box Studs.....	9.35

1/10 12K GOLD FILLED		Per Dozen
7699	KeeLock Riding Mountings.....	\$8.45
7699	KeeLock Cable Mountings.....	9.50
7699	KeeLock Comfort Cable Mountings.....	10.30
Special Invisible Endpiece		
7699	KeeLock Riding Temples complete.....	5.20
7699	KeeLock Cable Temples complete.....	6.25
7699	KeeLock Comfort Cable Temples complete.....	7.05
7699	KeeLock Bridges complete.....	3.35
7611	KeeLock Fits-U Spectacle Mountings, 10K Pads, 7699 Temples.....	13.30
7611	KeeLock Fits-U Spectacle Mountings, 10K Pads, 7699 Cable Temples.....	14.35
7611	KeeLock Fits-U Spect. Mountings, 10K Pads, 7699 Comfort Cable Temples.....	15.15
7611	KeeLock Fits-U Spectacle Bridges, 10K Pads.....	8.10
07112	KeeLock Fits-U Mountings, Ovalax.....	9.00
07112	KeeLock Fits-U Mountings, Ovalax, Inset or outset.....	10.50
07112	KeeLock Fits-U Fitting Sets.....	9.25
7793	KeeLock B Box Studs.....	4.60

Patented July 16, 1912

Other patents pending



Your Best Xmas Present

BECAUSE these newspaper ads are written and illustrated in the right spirit of quality they will bring in customers who are more interested in quality than in price. One for each week of the month.



An Aluminum Case For Your Glasses

You will never be satisfied with the ordinary, bulky, plug-ugly eyeglass case when you have once seen our handsome, feather-weight aluminum cases. They may be had either in plain polished aluminum, with ornamental relief or simple border design, or in oxidized, japtol or leather finish. We carry a complete stock and shall be glad to show it to you.

DEALER'S NAME
and ADDRESS

No. 11B



In Winter's Winds

These are the days you will find solid comfort and real security in the firm but gentle grip of the

Fits-U Eyeglass

When out-of-doors you aren't wondering every minute if the next gust of wind is going to dash your glasses in pieces on the ground. And what is quite as important, the lenses are always held in the correct optical position. Let us show you this Fits-U Eyeglass. It is worth a special visit.

DEALER'S NAME

No. A61



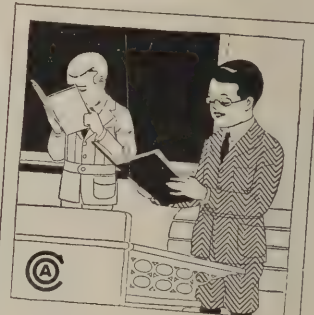
No one knows you wear bifocals if you have **Kryptoks**. Nothing stamps and advertises advancing years more than juggling two pairs of glasses.

With **Kryptoks** you read, you look off, and best of all you look and feel young and use only one pair of glasses.

Why not try them?

DEALER'S NAME

No. K5



Who Is To Blame?

Before you find fault with your children for low marks at school make sure that you yourself are not to blame. No child can be expected to study well with weak, tired eyes. The only safe way is to have your children's eyes tested at regular intervals. We have made a specialty of caring for children's eyesight, and you will find our prices moderate and our work dependable.

DEALER'S NAME
and ADDRESS

No. A60

Special Wireless Dispatch to Amoptico

NORTH Pole—Dec. 1—Mr. S. Claus, the well-known Arctic philanthropist, when interviewed by the AMOPTICO correspondent today, consented to discuss his plans for his forthcoming visit to the United States on the evening of December 24th. He grinned as he bit off a chunk of iceberg and said:

POSTER Stamps. The fact that so many people collect these poster stamps gives them a permanent advertising value. Six assorted designs in four colors each.

BLOTTERS. Our brand new test type blotter will prove one of your most popular "give aways." In small quantities free. No. 10B2.



No. 1

Poster Stamps. Assortment of six designs at the rate of \$1.50 per 500

Try This Eyesight Test

Attach this blotter to a convenient wall or door on a level with your eyes. Stand twenty feet away. If you cannot read the large black letters you need glasses

N R P T Z O E

NEAR-VISION TEST. Hold this blotter fourteen inches away from your eyes in a natural reading position. If you cannot read the following lines of print easily

You Need Glasses

This blotter is made of a special type of paper which is not affected by moisture or heat. It is a permanent record of your eyesight and can be used for many years. It is a valuable aid in the diagnosis of eye defects and is a most interesting and useful device.

If You Need Glasses Consult

Space For
Dealer's Imprint

We use genuine American Optical Company frames and lenses

Is a Good Xmas Profit



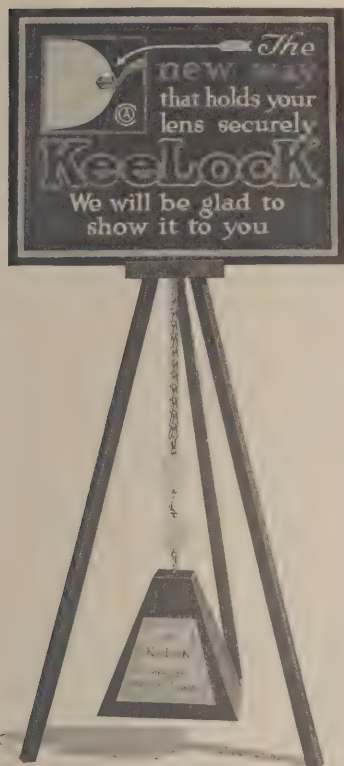
"I have been particularly pleased at the showing made by the optical profession this season," said Mr. Claus, "and I have found many useful suggestions in a little folder of the American Optical Company's called 'Practical Christmas Gifts.'"

The AMOPTICO correspondent noticed Mr. Claus's assistants doing up bundles of crisp, new bank-notes, and stacking them on a shelf labelled "Optical Dealers."

"Those?" said Mr. Claus, in reply to the correspondent's question, "those are Christmas presents in the form of

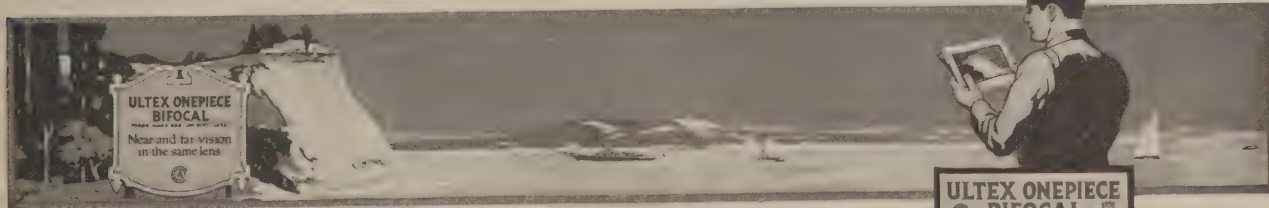
Christmas profits for good opticians and optometrists who do their Christmas planning early and get up bright, attractive window displays to help my purchasing agents. The extra large bundles are for the dealers who do newspaper advertising, because that makes it extra easy for my agents to find the right stores.

"I expect this to be a very good Christmas season in the United States," said Mr. Claus in conclusion. "All the reports I receive show that the country is in a most prosperous condition, and my agents are buying on a very liberal scale."



THIS striking KeeLock display has already proved to the satisfaction of a great many AOCO dealers that it compels attention and boosts sales. No. 2D1 \$1.50 complete. This is the time to join the KeeLock Jubilee and celebrate the Grand Opening of a year of KeeLock success. This tripod standing 30" high with card is one way to start in the right direction.

ANNOUNCING a big, new, handsomely colored Ultex Onepiece Bifocal display that will draw a crowd to any dealer's window. In four sections—the section showing scenery is approximately 45" long in three joined sections. The figure is separate and placed at the other end of the window. A string is run from the eye to the book and to the distant hotel. The most beautiful window display we've ever offered. In four colors, blue, orange, green and red.



PACKED and shipped in four sections this display complete is the finest Ultex Onepiece Bifocal display yet offered.

No. 21D1, \$1.00 complete



Orange and Black Circular No. 2F5

THIS booklet 2F5 tells the KeeLock story in simple, straightforward language that is absolutely free from technicalities. In small quantities free.

Note:—In order to avoid delays and to expedite the work of this department the dealer is requested to send tags with orders or give us his jobber's name through whom the matter is to be billed.

*This folder No. 17F8 cannot be delivered in New England before Christmas on orders received by us after Dec. 10th. More distant localities must order still earlier. Orders without imprint received up to Dec. 12th. Price, at the rate of \$2.00 per 1000.



Soldering Gold Parts

A Varsity Spectacle in Gold-Filled With the Liebold Bridge and the Quality that Made Us Famous

THE staunch and graceful Liebold bridge on one of our heavy Varsity gold-filled spectacles has been extremely popular ever since its introduction.

It is a very handsome, comfortable feature. The Varsity spectacle in 1/10 12K Gold-Filled has appealed to you; we know by sales statistics. Built in good, sturdy fashion with broad, comfortable, reinforced Liebold style bridge strongly attached to heavy eye wire, its general appearance gives the impression of luxurious comfort as well as the distinctiveness of an exclusive style. The temples, too, are the heavy Comfort Cable type with smooth tapered junction between heavy solid wire and cable and smooth tip.

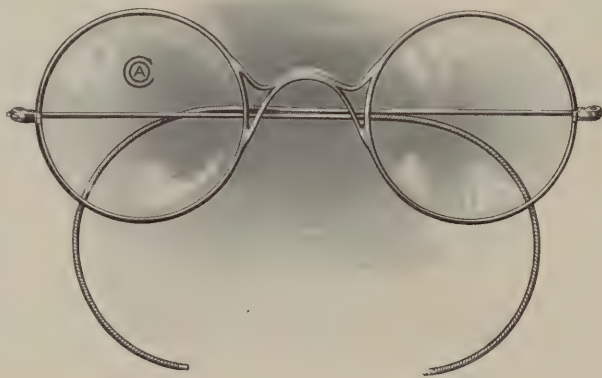
The bridges are supplied in three widths. Eyes are 40 m.m., round, with temples 6 1/2 inches.

Doesn't this proposition

look good to you? There is a big desire on the part of your customers for just such a frame as this for library use. The fact that you can supply it in 1/10 12K Gold-Filled brings it within the means of everybody, yet there is a generous margin in it for you. All it needs is an introduction to meet with ready sale in the year to come.

By the way, the catalog number of this frame is 4268-1 the price for a dozen is \$17.00. Such a frame will retail readily for \$5.00. Well, we guess you know a good proposition when it's put up to you.

Simply break the news to your jobber; gently but firmly insist and make sure you get the real AOCO Varsity every time. The pride that we take in our workmanship has gone into this frame. Look into it and satisfy yourself.



Varsity No. 4268-1. 1/10 12K, Liebold bridge

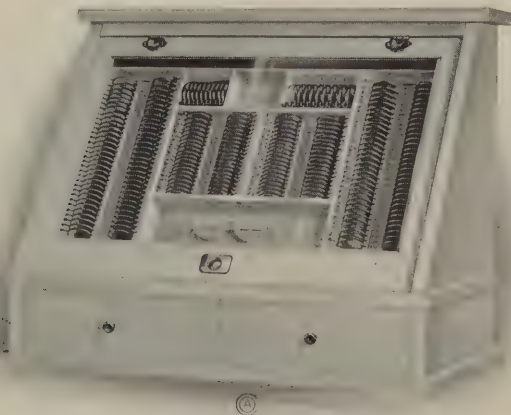


Pouring Gold Ingots

One of This Year's Best Sellers

ONE of the attractive and instantly approved offerings during the year about to close was this pure white enamel trial set case, No. 02211.

Because of its clean beautiful appearance it held a particular fascination for the man who wanted a washable, sanitary trial set case.



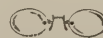
No. 02211. The New White Enamel Set

Not only the case but the complete set of trial rings and trial frames are in white zyloware, lending a complete effect unsurpassed in sets of its kind.

We are now ready to supply the white enamel finish regularly on all of our trial sets, in addition to our oak and mahogany finishes, at a slight additional cost.

The particular set shown here in white enamel is our No. 02211 with contents "B" consisting of 32 pairs each of concave and convex sphericals; 20 pairs each concave and convex cylinders; 5 pairs of prisms; 10 Discs and Colored glasses; trial frames, No. 2387 Wells temple and No. 2220, and one set of test types.

This entire set in oak comes complete at \$66.50 and in white enamel at \$74.00. Ask for quotations from your jobber on all our white enamel sets in roll fronts, glass fronts or regular office styles.



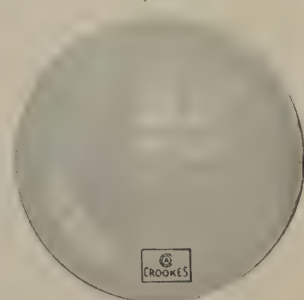
Know the Genuine Crookes by its Sticker

WITH the remarkable success of Crookes glass has come the desirability of stating that only the genuine Sir William Crookes glass bears the sticker shown in the accompanying illustration.

THE AMERICAN OPTICAL CO. has secured exclusive rights to the production of genuine Crookes glass.

The Crookes glass, sold by THE AMERICAN OPTICAL CO., is the genuine glass produced direct from the scientific formula of Sir William Crookes and with his personal assurance of its accuracy and correctness.

The entire output of the genuine glass has been taken from the first by this company under agreement. Order none but the genuine. It is known by this sticker.



Amoptico

Reg. in U. S. Pat. Off.

Vol. IV December, 1915 No. 9

Published Monthly by
American Optical Company
1833-1915

Channing M. Wells Albert B. Wells
President Treasurer

J. Cheney Wells
Vice-President and Secretary

General Offices and Works
Southbridge, Massachusetts, U. S. A.



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Cable Address: AMOPTICO, Boston
Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglases,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery
Tools and Supplies, Etc.

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essential in construction, appearance or strength, or a combination of all features.

A few have stood certain severe tests, however, and survived. But even these in their entirety have lacked some one detail or another which has prevented them from gaining popular favor. Their holding power, perhaps, was excellent, but their appearance bulky and ugly; or their appearance striking but their holding power nil; or their adherence to the smooth surface of glass weak. In some the cement was ineffective, in others the mounting complicated, or the glass weakened, and so on.

The inevitable result of this long and unsuccessful experimentation has created a widespread feeling of skepticism in the trade. Those who were originally susceptible have been disillusioned and turn a deaf ear. Those who still hope are overly critical and doubtful. Still others are prejudiced and satisfied with old styles.

But now comes the KeeLocK. On May 15th we submitted this radically new principle of mounting lenses with cement straps. We anticipated the skepticism, the indifference and the natural prejudice that meet every radically new enterprise. But we had faith in the merits of KeeLocK and in results. Now, after seven months, we can solemnly state that our foresight and claims are being justified.

The KeeLocK, which has for its advantages a unique combination of strength, beauty and simplicity, has effectively answered the "will it work?" inquiry of the trade. It is proving itself at a rapid rate and we base this statement on actual sales the country over.

Without urging a man against his will we are of the opinion that it will be to the distinct and profitable advantage of every dealer to examine the merits of the KeeLocK. If he has been discouraged, KeeLocK, under a fair trial, will

restore his faith in cement mountings. If he is indifferent he will be convinced of a new and simple source of increased profits and local prestige.

The KeeLocK presents to any dealer another opportunity of identifying and advertising his shop with the latest, most up-to-date eyeglass developments. This, in itself, is a very considerable factor in extending his local influence. Think this over well and join the growing army of KeeLocK dealers who are giving it a strenuous test.

Columbia's Friendship

Portland, Maine.

Gentlemen:—I have recently returned from a trip to Columbia University from whose School of Optometry I graduated last May. The new machinery is one of the finest assets that could possibly be given, and it is with pleasure that I express the feeling of friendship that the men at Columbia have toward the AMERICAN OPTICAL COMPANY.

—LINWOOD W. EASTON.

"Model Man a Turner, Too!"

New Orleans, La.

One of the trade in this city gave the writer an interesting news item—Our Model Man that was on display in their show window went thru the recent storm and flood. Although turned upside down by the rush of water thru the broken window, when found the AOCo Varsity frame with which he was fitted was still clinging to the nose. Only repairs necessary to man was a bit of water color tint, which of course the bath entirely washed off.

R. S. TURNER, AOCo Salesman.

At the Sign of the Fits-U

Memphis, Tenn.

Gentlemen:—I am happy to say I received your 5W22 sign for which I thank you. I hung it outdoors and on the first day a customer came in. He was glad to know that he could get the Fits-U mounting from me. Take it for granted that I had them in stock when he saw the sign.

The sign is handsomer than I anticipated.
—E. B. MEYER.

A Word from Secretary Beane

We have been recommending Crookes lenses with the very best results.

—G. FRED'K BEANE,
Secretary of the Rhode Island
State Optometrical Society.

Oklahoma Heard From

We sell your goods. (Have never found any as good.)
—BON-EYE OPTICAL CO., Woodward, Okla.

The Trial of the Cement Strap

SEVEN months ago the KeeLocK, newest and latest of all the cement mountings, made its initial appearance and engaged the interest of the trade.

For fifty years previous to this, the history of eyeglass development is replete with records of attempts to invent new and successful methods for mounting rimless lenses with cement straps.

Throughout this period the inventive minds in the optical business seem to have felt the urgent necessity of this new kind of mounting for lenses. This was evidenced by the frequency and persistence of their efforts to create a practical cement mounting; but to little avail.

The way was strewn with failures. First one and then another of these cement mountings fell down because it lacked some

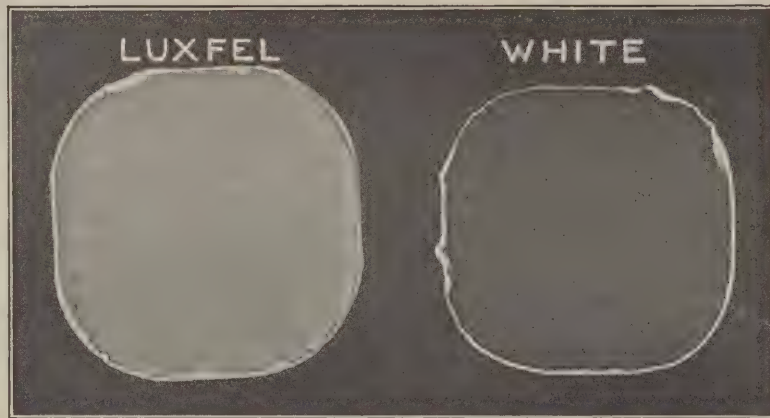
One of the Old Reliables in Tinted Lenses

THE impetus given to Luxfel, a scientifically conceived and produced tinted glass, at a time when others were vainly trying to discover a scientific glass, has increased with the passing of time.

It is doubtful if the popularity of this glass could ever be lessened in many quarters, so strongly is it a favorite with many people at the present date. Popular prejudice favors it.

Practically for the first time it showed the wearer a glass that could be worn without attracting undesirable attention, and yet possess many desirable properties and retain normal vision all the while.

More specifically Luxfel cuts out a large part of the ultra-violet rays, far better than amber or Fieuzal even if the last two were of twice the depth of Luxfel. It carries therefore a high and deserved reputation as a beautifully tinted protector against the ultra-violet rays. The visible colors of the spectrum are let through, as usual, practically unchanged. It is therefore possible to identify colors when wearing these glasses, which cannot be said of amber or Fieuzal.



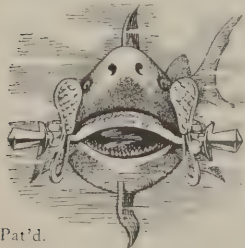
Trade-Mark Reg. U. S. Pat. Off.
One second's exposure of photographic paper under strong light. Luxfel stopped the ultra-violet rays; white glass let them through

Luxfel is a glass that cannot be ignored if you are looking over the tinted glass field. It is a hard, scratch-resisting glass with a refractive index 1.523 and is made in one shade only. The name it has made, the position it enjoys cannot be impaired by tinted glasses to come for it does its work thoroughly, efficiently and well.

The photograph here shown demonstrates the comparative effects of ultra-violet rays through ordinary optical glass and through Luxfel. Ultra-violet rays are actinic, and their chemical effect on a photographic plate is immediately discernible. In this illustration it will therefore be observed that the white glass interposed no obstacle to the passage of the rays while the Luxfel, designed to absorb the ultra-violet rays, prevented their passage and preserved the plate. So is the eye preserved from the rays. The comparison is quite vivid, showing more vividly than the written word the sight-saving properties in Luxfel.

The Commodore Tells Us Pictur- esquely What Others Say About Him

FINNY," says I, as he came up smiling, "you've been hanging around here for some time, showing your teeth and spouting sea water; now what've you got to say for yourself that's interesting to American noses? What's your Sharkgrip amount to, anyway?" And I sat back expectantly for an answer.



Pat'd.

Regular Sharkgrip Mtg.

"I ain't in no boasting mood," sez he blunt-like, "but there is them that says *I stick where others slip* an' youse nose it yourself! Why they tells me everywhere I'm the only guy they can use when the rest o' these mountings fails to fit! See why? Take a look at my teeth, beau!"

"An' they tells me I've got the strongest grip with the lightest spring pressure in the woild. An' also a new light spring, 'cause the new large shark-skin pads holds so strong I don't need no heavy spring, an'-an'-an'" "Gracious! you're vulgar. That's enough Finny, now blow!" said I, cutting him short. "I must write the folks all about it."

So here you have the Regular Sharkgrip 1/10-12K mounting at \$8.50 per dozen; in 10K, \$18.00 per dozen, while Sharkskin guards are supplied on any regular Fits-U mounting, including KeeLockK, at \$1.00 per dozen extra.

What a Snap for the Dealer

HERE'S a snap for everybody! Step lively and order the new Fits-U snap before the rush swamps us.

The most practical thing about it is the ease with which it slips in and out of the drilled hole, earloop and all. And when it catches in the hole the button end holds fast. Nothing simpler, nothing expensive, yet something infinitely useful. Ask your jobber. No additional charge over regular earloop snaps.



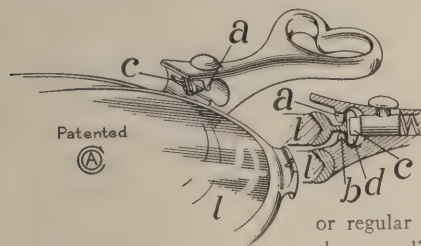
The New Fits-U Snap for Earloops. Pat. Pending

Solid Gold Varsities with the New Catch and Lifelong Wear

AMONG the best of the large number of Christmas gifts available in the optical line are the AO solid gold Varsity eyeglasses and spectacles.

An additional reason for their attractiveness is now provided in the Sibley Catch. This new catch was announced for the first time in the October AMOPTICO.

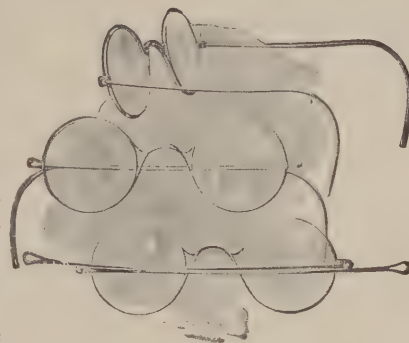
The Sibley Catch, as the detail *a* and *b* in illustration shows, prevents the two lenses from ever coming together. Consequently, no scratched lenses. It likewise prevents them from snapping open unexpectedly, for the new guideway receives the wedge *d* which is caught rigidly by catch *c* between platforms *a* and *b*. No movement up or down, to right or left is possible. Only the solid gold folding Varsity carries the Sibley Catch. It can be thrown on the floor or handled roughly and still the lenses will remain folded. Other types fly open at the slightest jar. AO solid gold Varsities carry the Christmas endorsement of a House of Quality with this newest patented improvement.



The Sibley Catch

The small illustration of our magnificent Varsity spectacles Nos. 2163 and 2167 in either white solid or regular solid gold or silver, shows a line we take greatest pride in; for it includes the

best material, design and finish the AOCo is capable of putting into a frame. You may say that \$20.00 each for No. 2167 (gold), \$12.00 for No. 3167 (silver), \$16.00 for No. 2163 (gold), or \$7.50 for No. 3163 (silver), is a prohibitive price, but not when you figure the gold or silver, the beautiful workmanship and finish and the years of endurance the wearer is going to get out of it. The AO solid gold frames last a lifetime. Their service and satisfaction reduce the original cost in the long run.



In Either White or Regular Solid Gold

Added to these regular solid gold and silver styles has recently come the new AOCo 10K and 14K white solid gold, beautiful platinum-like finishes that carry all the effect of the precious metal at a price slightly higher than regular solid gold.

Our white solid gold is white in color throughout and assays strictly 10K and 14K. It sells in all solid gold styles in 10K and 14K, because these karats were found, after severe tests, to be the lowest karats for the best and most lasting results.

How to Protect Your Lens

This article, written by WALTER G. WOLFE, of The Pinkham & Smith Company, Boston, will be of considerable interest to those of the trade who use the camera or sell it. We take pleasure in printing it complete.

IF I describe just what happens when a piece of glass is polished, you will readily realize the danger of touching the surface and you will appreciate how to protect your valuable camera lens.

"When a lens is ground with emery, its surface represents countless valleys and peaks. However fine the ground surface may be, the pits and peaks remain in greater or lesser magnitude, according to the skill of the worker.

The Peaks Must be Rubbed off

THEORETICALLY, the tops of the peaks must be rubbed off until they reach the bottom of the pits. There has been considerable controversy as to whether these tops are cut off or pushed over to fill up the pits. Now, glass is polished in several ways: by sticking onto the grinding tool cloth, silk, cashmere or paper; by a tool made of pitch, resin, wax, putty, or lead, using as a polishing medium rouge (oxide of iron), putty powder (oxide of tin), and by fluoric acid also. I have used all methods—the quickest is cloth and rouge—the slowest and truest is wax and putty powder. Pitch and rouge are very fine and cut nicely. My opinion is that cloth polishing with rouge really buffs or burnishes the peaks. Pitch and rouge, I believe, cut off the tops, for you may polish on pitch a considerable time before any appreciable result is seen, then suddenly it appears polished all over.

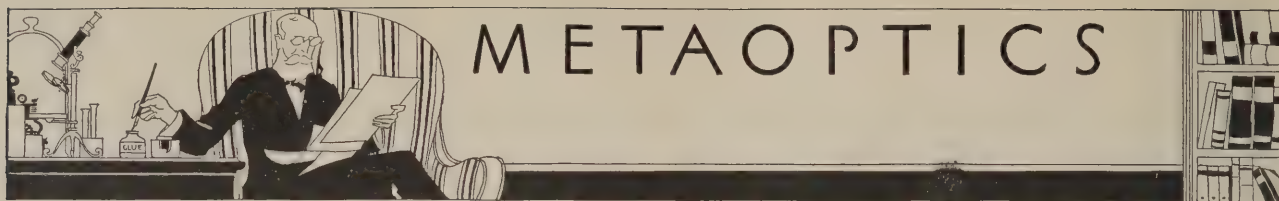
The Speed of a Lens

NOW, on the polished surface of a lens (other things being equal) depends its speed or rapidity. The more expensive your lens, the higher and more delicate is the polished surface. A surface that looks bright to the ordinary observer may be quite dead to the expert. Never use chamois—better take emery cloth, for the former will ruin your lens more quickly. A chamois skin will cover your surface with numerous fine lines and scratches and repeated rubbing in this way will convert your lens into a ground glass. Far better to have a good dig or deep scratch than a dull surface, for the percentage of light absorbed by one or two scratches is nil as compared with the dull surface produced by improper wiping. Dust off lightly with a camel's hair brush, then carefully wipe with an old, clean linen handkerchief. The best way, however, is to dust with this brush and wipe with a lens paper made from Japanese dogwood, this being one of the few woods containing no silica. Silica is a component part of glass, and if you rub your lens with a medium containing silica, the result is obviously harmful.

Cause of Lens Stains

CONTRASTS of heat and cold will cause a lens to sweat and dry off, and will often produce stains. If this becomes serious, never let anyone but the original maker polish your lens. By not being equipped with tools of identical precision, any other optician might ruin it. I do not mean that it cannot be done, but the cost of making tools to duplicate the exact curves is practically prohibitive.

"So, be careful with your lens and when you are tempted again, never, never yield to chamois skin."



NOTE: This is the eighth of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff will endeavor to make these articles simple and interesting to everybody from month to month.

VIII. The *Invisible* Spectrum

(Continued)

THIS month we will continue our discussion on the infra-red rays. In the first place heat is usually looked upon as something quite different from light, but when we can visibly demonstrate that the heat, or infra-red waves possess the same peculiar properties and characteristics as the waves that excite the sense of vision in our eyes, then we are compelled to admit that infra-red rays are a form of light and it is only because they are too long and vibrate too slowly that they do not affect our eyes to the extent that we can see objects by their action.

In the last article we demonstrated that the infra-red waves are refracted through a rock-salt prism and can then be shown stretching out beyond the red end of the visible spectrum.

We can also visibly demonstrate (see illustration) that infra-red rays can be reflected and this can be done very simply if we take two large metallic mirrors and place them some fifteen or twenty feet apart. If, then, a source of heat such as an iron ball that has been heated up red hot or less, is placed at the focus of one of the mirrors, the rays will then be reflected from the first to the second mirror as shown in the diagram and the latter mirror will then concentrate the rays that it has received into its principal focus. If, then, some object which is easily affected by heat is held at this principal focus that object will be affected by the heat. A match for instance can be ignited.

If, on the other hand, you took away the second mirror and held the match in just the same place it would not be ignited.

We can perform the same experiment in a different way by using the apparatus of last month; by putting the thermopile into a different position so that the infra-red waves are not falling directly upon it. We can then, by using a small metallic mirror, reflect some of the infra-red waves onto the mouth of the thermopile and the spot of light will move on the scale.

Infra-red, or heat, rays are often looked upon as being in themselves hot, but such is not exactly the case; they merely have the property of exciting the sensation, which we call heat, in the objects with which they come in contact. Infra-red waves demand a medium to carry them. This medium is the same as that which carries light, visible light, namely, the luminiferous ether. The infra-red waves do not heat this medium through which they pass, but when they come into contact with some tangible substance, such as air, then they do excite in that substance the sensation of heat.

Infra-red waves can then pass through a vacuum. What then is the principle of a thermos flask or bottle, which is a vessel surrounded by a vacuum between its walls and the walls of the outer metal container? This, as is known, keeps the heat in for a very long time and the reason is that in the first place the substance inside which is heat or wants to radiate heat has no object through

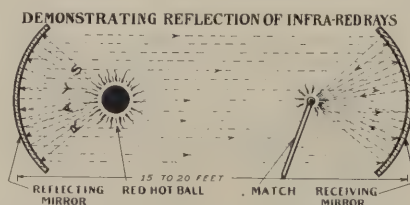
which it can part with that heat; it has merely the walls of the inner vessel and these of course become heated up to the temperature of the substance inside of them. Then the infra-red rays can pass through the vacuum to the metal container, but there they can get no further because they are reflected back again, and if heat waves are reflected then the reflector does not get very hot. If it were a perfect reflector, that is, if it reflected 100% of the infra-red rays that were falling upon it, it would not get hot at all; in fact, none of the heat would be lost inside of the thermos glass provided, of course, that there was some other arrangement than the cork at the top. But, obviously, no reflector can be made perfect. A small per cent, then, of the infra-red rays are absorbed by the reflector and are in turn given out to the air around, and in this way the heat of the substance inside the thermos is gradually dissipated as well as through the cork at the top. There are certain chemical substances which can act as detectors of heat, although they are, of course, far less sensitive than a thermometer. One of the most sensitive of these is made by a mixture of silver nitrate and potassium iodide to which is added some mercuric chloride. The result is a bright yellow substance which if heated to a temperature of about 130° F. will turn to a bright scarlet color. If some of it is made into a paint and this paint is put on a piece of black paper,—black having been found a good absorber of the infra-red rays—and if the paper be brought near a fire or source of heat and the hand held close to the paper, between it and the fire, then the paint will, of course, turn red except where it has been protected by the hand, and in this way a sort of thermograph of the hand in yellow with a red background will be found upon the paper.

It can also be demonstrated how bright metallic surfaces will also reflect the infra-red rays, because if a similar piece of black paper, painted over on one side with the heat-indicating paint, has a letter or some diagram painted in gold leaf on the other side and then exposed to a source of heat; the gold leaf will have been found to have protected the heat-indicating paint from changing color and an image of it in yellow will be left on the back of the paper while the rest has turned red.

This interesting phenomenon has also been observed in another way. When a fire broke out in a street the infra-red rays radiated across the street from the burning house and charred the window frames and burned and blistered the paint on the sign board, but where the number of the house stood in gilt letters on the signboard the mere film of metal had reflected the rays and protected the paint and wood behind it from being charred.

The property possessed by bright metallic surfaces in reflecting infra-red rays without themselves being heated up is one that can be turned to very useful account in ophthalmic lenses. Next month's article will conclude the discussion of the infra-red and invisible section of the spectrum.

—H. T. REEVE.



The Preparation of Eye-Preserving Glass for Spectacles—IV

By SIR WILLIAM CROOKES, O. M., F. R. S.

Method of Testing Glass

SINGLE metals were at first tried in varying quantities to see if from the colour and properties communicated to the glass they were worth further examination. Each specimen is cut and polished into a plate 2 mm. thick. The plate so prepared is first tested in the spectrum apparatus to ascertain the upper limit of transmission of the ultra-violet rays. It is next put into the radiometer balance to see the percentage of heat cut off, then tested in Chapman Jones' opacity balance to see the percentage of luminous rays transmitted, and finally the colour is registered in a Lovibond's tintometer.

A large proportion of the known metallic elements were tested in this manner, and a considerable number were proved to be unsuitable. After experiments extending over several months eleven elements were selected as likely to be worthy of further experimentation by combining the metals two, three, or four at a time in one glass so as to enable the advantages of one to make up for the shortcomings in another.

Composition of Glasses Specially Selected for Practical Use

WHILST bearing in mind that the chief object of this research is to find a glass that will cut off as much as possible of the heat radiation, I have also attacked the problem from the ultra-violet and the transparency points of view. Taking each of these desiderata by itself I have succeeded in preparing glasses which cut off over 90 per cent of heat radiation, which are opaque to the invisible ultra-violet rays, and are sufficiently free from colour to be scarcely noticeable when used as spectacles. But I have not been able to combine in one specimen of glass these three desiderata in the highest degree. The ideal glass which will transmit all the colours of the spectrum cutting off the invisible rays at each end, is still to be discovered.

As far as transparency, however, is concerned, it will not be an unmixed advantage for the sought-for glass to be quite clear and colourless. The glare of a strong light on white cliffs, expanses of snow, electric light, etc., is known to be injurious to the eye, and therefore a tinted glass combining good obstruction to the heat radiation and ultra-violet rays is the best to aim for.

Grey or neutral tints are the most pleasant to wear. They do not appreciably alter the natural colours of objects, and are a great relief to the eye. Many glasses are met with in commerce of different colours which are found by experience to suit the public demand for tinted spectacles. They are of various tints of yellow, green, blue, and neutral, and therefore I do not think it will be wrong to select the tints of my glasses, suitable in other respects, no darker than those which appear to suit the public taste.

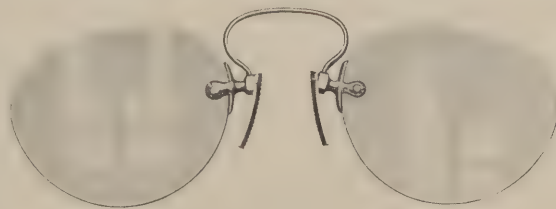
Without counting numerous preliminary experiments, I have made and fully tested over 300 tinted glasses, the quantitative composition of each being known. From these glasses I have selected three which possess valuable qualities in respect of athermancy, adiactinity, and transparency.

Two of these are neutral colored, one so pale as to appear colorless when made into spectacles. It is opaque to ultra-violet and shorter wave-length than $\lambda 3600$. It cuts off 42% heat rays and transmits 94% of light.

The other is opaque to ultra-violet of shorter wave-length than $\lambda 3600$. It cuts off 47% of heat rays and transmits 60% of light.

These two are sufficient for all ordinary wear in any climate, and will undoubtedly replace the white and coloured glasses now in use, especially, as they are commercially available in quantity. In addition there is a third, a pale blue-green suitable for furnace workers under conditions where terrific glare is experienced.

It is opaque to ultra-violet, shorter than $\lambda 3550$. It cuts off 96% heat radiation and transmits 40% light. The third is not yet commercially available. Many others also have useful properties, but are not so generally effective as the above mentioned.



Photograph showing Invisible Crookes tint

Discussion of the Results

I have already said that the progress of this research has widened since I commenced investigations.

Then my object was to find a glass which would cut off the heat so as to preserve the eyes of those engaged in glass works. I soon found it difficult, even if it were advisable, to confine the research to the action on heat rays alone. Thus the glasses now described include specimens suitable for spectacles adapted to all requirements—from Eyes of Youth to Eyes of Age.

The End.



Two hours' time should see this Christmas window completed

THIS month's window trim is a Christmas suggestion, novel, inexpensive and effective.

The material needed for this Christmas window is simple. It consists of one shelf and two supports that any carpenter shop will cut out in ten minutes; six stockings; white or any colored cloth for the background; gray or any colored velvet for the floor; two candlesticks; a sign "Practical Christmas Gifts," and laurel or holly for the mantelpiece and floor.

Holiday boxes containing our Christmas Snow Glasses, Zylor readers and Sterling cases; a set of 17W1 cards; a Glad Hand and 17F8 Christmas Folders complete the window. Stuff the stockings with presents.

Suggestion For Your Christmas Window

HOW to get a novel Christmas window trim with a minimum expense and a maximum effect was the aim for December.

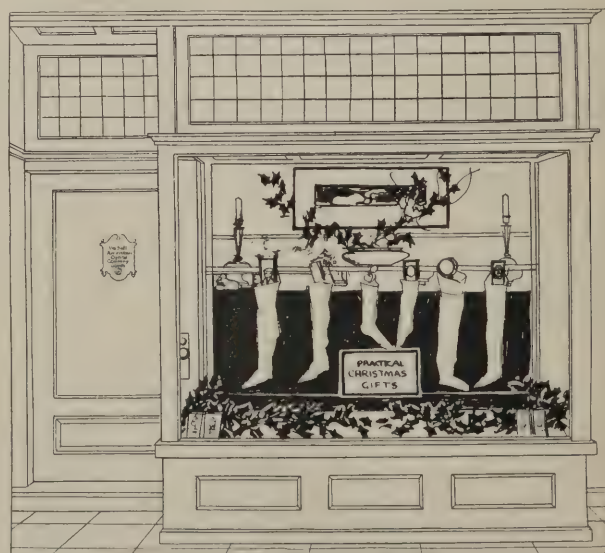
As your December newspaper ads and Christmas folders are running now, calling attention to your shop as the headquarters for Optical Christmas Gifts your window should be dressed up attractively to invite attention to the actual gifts themselves. You should be out in the remaining weeks to make your final bid for Christmas business.

The simplicity of our window can be elaborated on by making the window background look like one gigantic fireplace and chimney with stockings suspended from the shelf, or the dealer can devise any variation of our treatment that his fancy dictates. He can use crêpe paper, so easily and cheaply obtainable, or he can use more expensive materials.

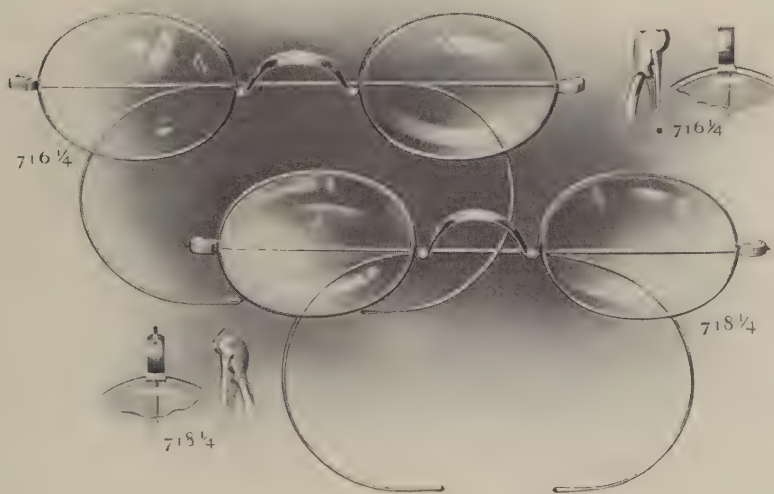
Another striking treatment would show a great holly wreath on a plain background enclosing a sign "Let us Show You Our Optical Christmas Gifts." From this wreath below the shelf run brilliant red ribbons to eight individual Christmas packages done up along the front of the window. On top of each package place a reader, an eyeglass, a Varsity, a reel, a sterling silver case, a pair of our snow glare Christmas set glasses or an eyeglass chain. In the stockings here illustrated we have put a number of our Christmas goods from cases to chains to sun glasses to Zylor readers, etc., as suggestions to the onlooker.

The dealer who decides to increase his Christmas profits will either take the hour or two necessary to

follow our suggestion or will elaborate on it to his own satisfaction. These attractive eyeglass chains and snow glare glasses which we've utilized in our display most effectively strengthen the window, in their embossed red and green individual boxes. The holly scattered through the window completes the most striking effect. Plan your window now.



Skeleton Outline Suggestion



"The effect of platinum at the price of gold"

Opening Up a New Optical Bonanza

ANNOUNCEMENT of the new Twin Six of Solid Gold goods—AOCO White Solid Gold—by this company has created an unprecedented demand.

The demand for White Solid Gold is attributable to the long existent desire for solid gold quality without the gold color. Clericals in particular have been forced by the dictates of their church to avoid the use of the gold color; others desire the wearing qualities of gold but dislike its yellow color.

To these two classes of people and the majority who are coming to appreciate Quality above price the new White Solid Gold owes its existence. It has never before been offered in frames.

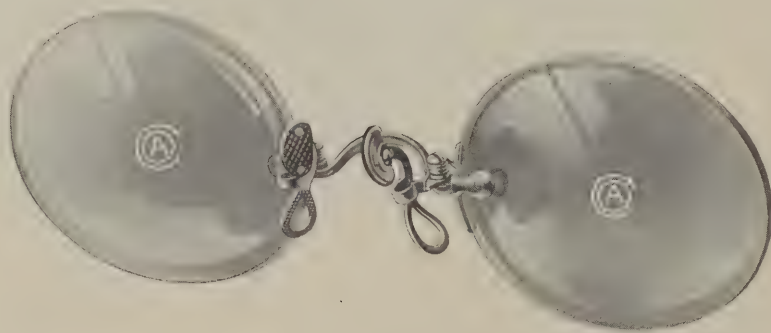
The effect of platinum at the price of gold, assaying 10K or 14K solid gold and a solid platinum-like color throughout, is the promise of this remarkable, high quality frame. These karats have been found to give the best results.

White Solid Gold will have a year-round sale. Open up a new optical bonanza for yourself. Ask your jobber. Made in frames, fingerpiece, rimless and Varsities in both 10K and 14K.

The Long Sought White Solid Gold
AO Quality at its Best

Reg. U.S. PAT. Off.

Style
Strength
Simplicity



Fits-U Eyeglasses

American Optical Company

Southbridge Mass, U·S·A



Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

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Vol. IV

January, 1916

No. 10





1896

1916

Centering the New FITS-U Automatic

PERMANENT, automatic adjustment on the patient's face made the Self-Centering fingerpiece a necessity. The AOC made it a reality when it originated the first fingerpiece that centered lenses automatically without adjustment.

☐ *So today we have the new Self-Centering Fits-U with its integral bearing pads and bridge—the crux of a new achievement:*

☐ *Automatic, Self-Centering:*—Accomplished by the pad-bridge which centers and aligns the lenses automatically without previous adjustment (for center).

☐ *Seamless Pad Bridge:*—Bridge and pads made in one piece of seamless gold-filled stock, allowing no openings for perspiration, dust or corrosive acids.

☐ *Adjustment:*—The integral pad bridge has no movable guards. This

serves to make permanent the initial adjustment, where movable parts need constant readjustment.

☐ *Rocking Blade:*—The bearing pad is a rest only; the rocking blade, with the AO Loop fastened to its posterior edge, adds a long range of adjustment and a broad, comfortable holding surface. Strong spring tension is made unnecessary. Extra stock and reinforced joint at the junction of AO arm and the blade. The rocking blade will hold when other parts are gone; it provides security and prevents the lenses tipping forward.

☐ These, and the advantages of the Ovalex spring, the AO Loop and the inherited merits of the Fits-U line survive in this modern self-centering achievement. Its simplicity, comfort and ease of adjustment makes it the only automatic fingerpiece for the Fitting Table. Try it on your patients.

Style
Strength
Simplicity

Reg. U.S. PAT. Off.

Ultra-Violet Radiation and the Eye

By DR. W. E. BURGE

A scientific paper read by Dr. Burge of the Nela Research Laboratory, the National Lamp Works of the General Electric Co., before the Ninth Annual Convention of the Illuminating Engineering Society at Washington, D. C.

Editor's Note:—We have reprinted this paper by an independent investigator because of its clear and concise exposition of a subject in which the profession is deeply interested today. AMOPTICO however, does not hold itself responsible for the opinions expressed herein, contenting itself with offering to the profession some of the best thought of the day on these subjects, taken from sources beyond our own organization.



IT has been recognized for some time that, unless protected by a glass globe, the radiation from a quartz mercury arc or from an iron arc or from any light source emitting large quantities of ultra-violet rays is harmful to the eye. In a general way it has been assumed that all radiation of shorter wave-lengths than 350μ is injurious to living tissues. So far as I know, little or no attention has been paid to the mode of action of this radiation in producing the injury. The object of this investigation, among other things, was to determine which wave-lengths in the ultra-violet region of the spectrum are injurious to living tissues and the mode of action of these wave-lengths in producing the injury.

The Most Important Cell Constituent

AN organ, e. g., the eye, is composed of tissues, connective tissue, nervous tissue, etc. The tissues are composed of cells. The most important constituent of the cell is the protein. Protein is a nitrogenous, semi-fluid organic compound, colloidal in nature. Egg white is a good example of a protein. This, however, consists of several proteins. Dreyer and Hanssen showed that egg white is converted into an opaque coagulum by exposure to ultra-violet radiation just as it is when heated to 100 degrees C.

I exposed free-swimming organisms, paramecia, to the radiation from a quartz mercury burner and observed them under the microscope during the exposure. These organisms are fairly transparent and are just visible to the unaided eye. During the exposure they moved more and more slowly and gradually became more granular and opaque. After twenty or thirty minutes the organisms were dead. Fig. I (1) represents the normal transparent animal, (2) represents an organism that was killed by ultra-violet radiation and (3) one killed by heating to 45 degrees C. It may be seen that whereas the normal animal (1) is transparent, (2) and (3) are both granular and opaque. As exposure of egg white to ultra-violet radiation caused it to lose its transparency and to become an opaque mass, so the exposure caused the living material or protoplasm of these organisms to coagulate and to become an opaque mass. The conclusion may be drawn that ultra-violet radiation injures or kills living cells by coagulating or rendering insoluble the protoplasm or living material of the cells.

The Chemical Action of Ultra-Violet Rays on Protein

EXPERIMENTS were carried out in an attempt to determine the mode of action of ultra-violet radiation in coagulating or rendering insoluble the protein of cells and to determine the specific wave-lengths in the quartz mercury arc active in this respect. A normal excised crystalline lens was placed between two quartz plates and pressed into a thin layer by squeezing the plates together. By means of a quartz spectograph the spectrum from a quartz mercury burner operating at 70 volts and 800 candle power was focused on the layer of lens material. This layer of material was almost perfectly transparent. The exposure was made for one hundred hours. At the end of this time there was no visible change in the material. It was as transparent as at the beginning of the experiment. However, when the preparation was immersed in a 0.1 per cent calcium chloride solution four bands of coagulated lens protein appeared where the bands of the spectrum had been focused. Fig. II (3) is a photograph of the preparation after it had been immersed in the calcium chloride solution; (1) is a photograph of the spectrum that was focused on the material. It may be noticed that the lens material (3) was precipitated in the extreme ultra-violet region of the spectrum where the photographic plate (1) was not affected.

A similar preparation was made except that the lens was soaked in a 0.1 per cent solution of calcium chloride for several hours previous to being pressed between the quartz plates. The spectrum was focused on this layer of lens material just as it had been focused on the layer of normal lens material. After fifteen hours of exposure nine bands of coagulated lens material could be seen where the corresponding bands of the spectrum had been focused. Fig. II (2) is a photograph of the lens material on which the spectrum had been focused for fifteen hours. The line of coagulated lens protein in (2) where the spectral line of wave-length 254μ was focused, appeared after sixty minutes' exposure; that where the spectral line of wave-length 265μ was focused, after seventy-five minutes of exposure. The other lines of coagulated lens protein where the lines of the spectrum were focused appeared after two hundred minutes of exposure.



Fig. I.—Paramecia. (1) The normal transparent animal. (2) Paramecium killed by ultra-violet radiation. (3) Paramecium killed by heating to 45° C.

Egg White Utilized

EGG white was introduced into a quartz cell. The spectrum from the quartz mercury burner was focused on this material for fifteen hours. At the end of this time nine bands of coagulated egg white could be seen where the bands of the spectrum had been focused. These bands of coagulated egg white occurred where the bands of coagulated lens protein had occurred and the time of appearance of the different bands was about the same as those of the lens protein, (2) Fig. II.

Egg white was poured on a glass plate and spread out in a thin layer. After the egg white was dry the spectrum from the quartz mercury burner was focused on it for fifteen hours. At the end of the time no visible change had been produced on the egg white by the spectrum. The glass plate with the layer of egg white on it was immersed in a 0.1 per cent calcium chloride solution. In a few minutes nine lines of coagulated egg white appeared in the region of the spectrum where the lines of coagulated lens protein had appeared.

Calcium Salts Help Rays Precipitate Protein

FROM these experiments it would seem that calcium salts in some way make it possible for ultra-violet radiation to precipitate protein. It would seem that ultra-violet radiation acts on the protein in such a way that calcium salt can combine with it and form a precipitate or coagulum. Magnesium salts and silicates have the same effect as the calcium salts.

Cataract is an opacity of the crystalline lens. Analyses of human cataractous lenses from America show a great increase in the salts of calcium and magnesium, and those from India show in addition to these salts, silicates. I am told that silicious earth forms a part of the diet of certain classes in India. This may account for the silicates in the cataractous lenses from there.

Cataract Common in Tropical Countries

CATARACT is of very common occurrence in India. Tropical light is comparatively rich in ultra-violet radiation. To explain the prevalence of cataract in India, the assumption is made that the relatively great amount of ultra-violet radiation in tropical daylight acts on the lens protein in such a way that the silicates in the eye media can precipitate it and produce an opacity. To explain the prevalence

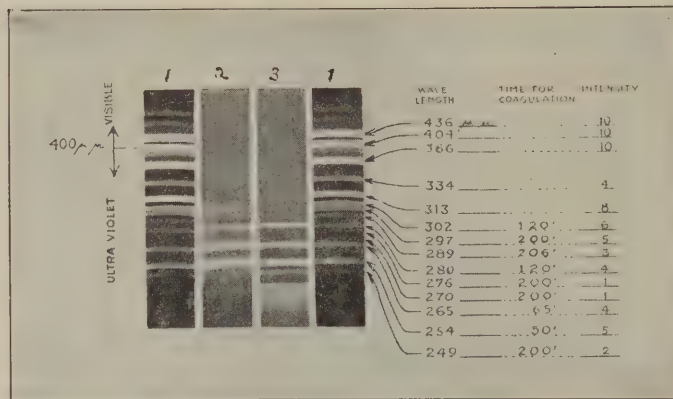


Fig. II.—Photograph of spectrum of quartz mercury arc. (1) Made on a photographic plate. (2) Made on lens protein extracted by 0.1 per cent calcium chloride. (3) Made on a thin layer of lens, immersed in 0.1 per cent calcium chloride after the exposure.

or cataractous. The glass blowers who develop cataract form a relatively small percentage of those engaged in that occupation. Since the eyes of those who do and those who do not develop cataract are exposed to the same quality and quantity of radiation from the furnaces, it is assumed that those who do develop it have a disturbed condition of nutrition expressing itself in an increase of those substances which can precipitate the protein of the lens acted upon by ultra-violet radiation.

Production of an Opacity in the Lens or Cataract in Living Animals

EXPERIMENTS were carried out in an attempt to increase in the fluids of the body of living animals, and hence in the eye media, those substances found to be greatly increased in cataractous lenses with the hope that on exposure of the eyes of the animals to ultra-violet radiation, cataract would develop. Many observers have demonstrated that it is impossible to produce an opacity of the lens or cataract in a normal living animal by exposure of its eye to ultra-violet radiation. Burge showed that it was impossible to produce an opacity of the excised lens exposed directly to ultra-violet radiation for very



Fig. III.—Fish (1) living in tap water and exposed to ultra-violet radiation for 12 hours. Fish (2) living in 0.1 per cent sodium silicate and exposed to ultra-violet radiation for 12 hours. Fish (3) living in 0.1 per cent sodium silicate and exposed to ultra-violet radiation for 24 hours.

long periods. Fish were chosen for the experiments because they could be kept alive in the solutions of the salts desired. One batch of goldfish was kept in

0.8 per cent calcium chloride, another in 0.8 per cent calcium lactate, another in 1.0 per cent dextrose, another in 0.1 per cent sodium silicate for ten days. At the end of this time each fish in its turn was introduced into a small box with a quartz window in one side. In practice four of these boxes were used, so that four fish were exposed at one time. Clear tap water was kept flowing through these boxes during the exposure. The boxes containing the fish were adjusted so that the quartz windows were 15 cm. from a quartz mercury-vapor burner operating at 140 volts, 3.3 amperes and 2,400 cp. In this manner one eye of each fish was exposed to the radiation. Each exposure was of six hours' duration. After the exposures the batches of fish were replaced in the solutions from which they were taken. For comparison the eyes of fish living in tap water were exposed in the same manner and for a similar length of time as those living in the salt solutions. As a rule the slight opacity in the cornea of the eye exposed appeared about fifteen hours after the first exposure.

Ten Days After Exposure

TEN days after the first exposure the eyes of the fish that had been exposed were exposed again for another six-hour period. At the time of this second exposure, as a rule, an opacity of the cornea and lens of the fish living in the salt solutions had increased, while the opacity of the cornea of the fish living in tap water had cleared up. Several hours after the second exposure, as a rule, the opacity of the lens and cornea of the fish living in the salt solutions became more marked. An opacity of the cornea of the fish living in tap water also developed, but it was slight and cleared up in a few days, while that of the fish living in the salt solutions increased.

After the second exposure no prescribed rule as to time for the third exposure can be laid down. In order

to clear up the opacity of the cornea of the fish in the different salt solutions, it is necessary to transfer them to tap water. As a rule the opacity of the cornea will clear up in a few days, while the lens remains opaque. By nursing, by exposing to ultra-violet radiation, by transferring back and forth from salt solutions to tap water, I have been able to obtain fish in the condition indicated in Fig. III. Fish 1 had been living in tap water in the laboratory for thirty days and had been exposed to ultra-violet radiation for two six-hour

periods or twelve hours. Fish 2 had been living in 0.1 per cent sodium silicate for twenty-eight days and had been exposed to ultra-violet radiation for two six-hour periods or twelve hours. Fish 3 had been living in 0.1 per cent sodium silicate for forty-two days and had been exposed to ultra-violet radiation for four six-hour periods or twenty-four hours.

It may be seen that the lens of Fish 3 living in the silicate solution and exposed to ultra-violet radiation for twenty-four hours had become perfectly opaque, that of Fish 2 living in the same solution, but exposed to ultra-violet radiation for twelve hours, had become partially opaque, while the lens of Fish 1 living in tap water and exposed to ultra-violet radiation for twelve hours was practically clear. The results of these experiments would seem to support the assumptions

made in explaining the prevalence of cataract among people living in the tropics and among glass blowers.

The Production of Anterior Eye Trouble by Means of Ultra-Violet Radiation

ONE batch of frogs was kept partially immersed in 0.2 per cent sodium silicate, another in 0.8 per cent calcium chloride, another in 1 per cent dextrose for fifteen days. The eyes of these frogs were exposed to the radiation from a quartz mercury burner at a distance of 20 cm. one hour each day for five

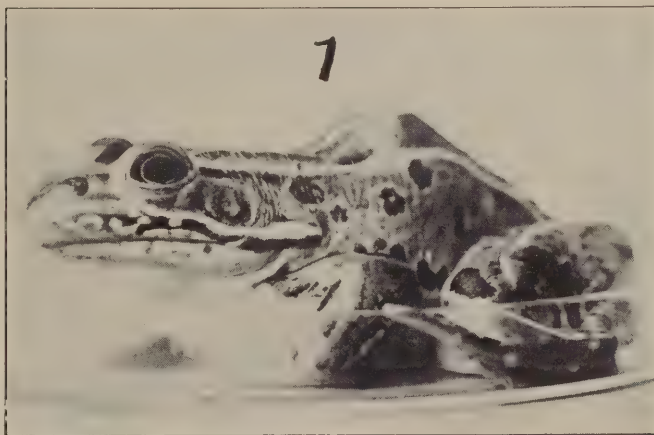


Fig. IV.—Frog (1) living in tap water and exposed to ultra-violet radiation for 5 hours.

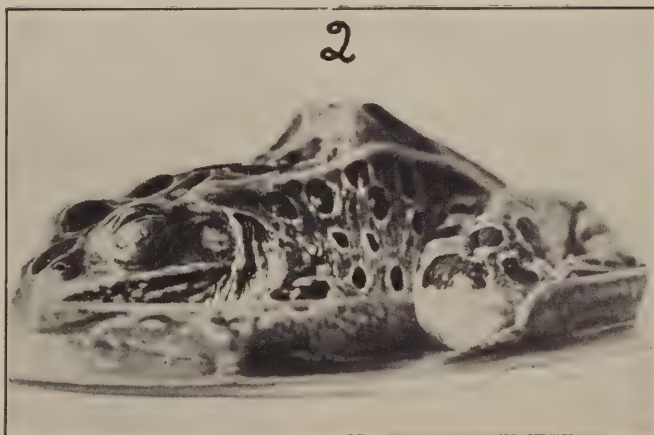


Fig. IV.—Frog (2) living in 0.2 per cent sodium silicate and exposed to ultra-violet radiation for 5 hours.

successive days. Photographs of the frogs were made fifteen days after the exposures. Fig. IV, Frog 2 had been living partially immersed in 0.2 per cent solution of sodium silicate previous to the exposure. Frog 1 had been living partially immersed in tap water for the same length of time. It may be seen that the skin covering the anterior part of the eye of the frog living in the salt solution had been coagulated and converted into an opaque mass, while that of the frog living in tap water was very little injured. The solution of calcium chloride and of dextrose had the same effect as the solution of silicate. The conclusion may be drawn that salts such as are found to be greatly increased in human cataractous lenses not only increase the effectiveness of ultra-violet radiation in producing an opacity of the lens or cataract, but they also increase the effectiveness of ultra-violet radiation in producing anterior eye trouble.

The skin is more easily sunburned when it is wet than when it is dry. Sunburn is a precipitation of the protein of the cells of the skin by the ultra-violet radiation in sunlight. Ultra-violet radiation acts on the protein of the cells of the skin in such a way that certain salts in the lymph, bathing the cells, can combine with it and precipitate it. If the skin is wet, the salts in the water facilitate this process.

Conclusions

1. Ultra-violet radiation kills living cells and tissues by changing the protoplasm of the cells in such a way that certain salts can combine with the protoplasm to form an insoluble compound or coagulum. The effective region of the spectrum in coagulating the living material of the cell or protoplasm is between 249μ and 302μ . The most effective region is around 254μ in case the mercury arc is used.

2. An opacity of the lens or cataract can be produced in fish living in solutions of those salts found to be greatly increased in human cataractous lenses by exposing the eye of the fish to ultra-violet radiation. This cannot be done with fish living in tap water.

Exacting Test for Crookes Lens

AOCo., Southbridge.
AOCo., 15 Maiden Lane, N. Y. City.

"In calling on E. B. Meyrowitz at their 50th St. store, they brought up the subject of Crookes glass.

"They tell us that they like these Crookes lenses very much. They mentioned particularly one of their customers who is a large jewelry manufacturer here in the city, and who examines all diamonds used in the manufacture of Tiffany's articles. He is very much pleased with the A shade Crookes glass. He tells the Meyrowitz people that these are the best lenses he has ever worn, and in examining diamonds they are far better than any white lens which he has ever had, as they do not alter the color when examining the stone.

"The Crookes' absorption is so slight, therefore, as to satisfy that most exacting of demands, i. e., diamond examination where color absorption must practically be eliminated.—AO Salesman.

615 Fifth Ave., New York City.

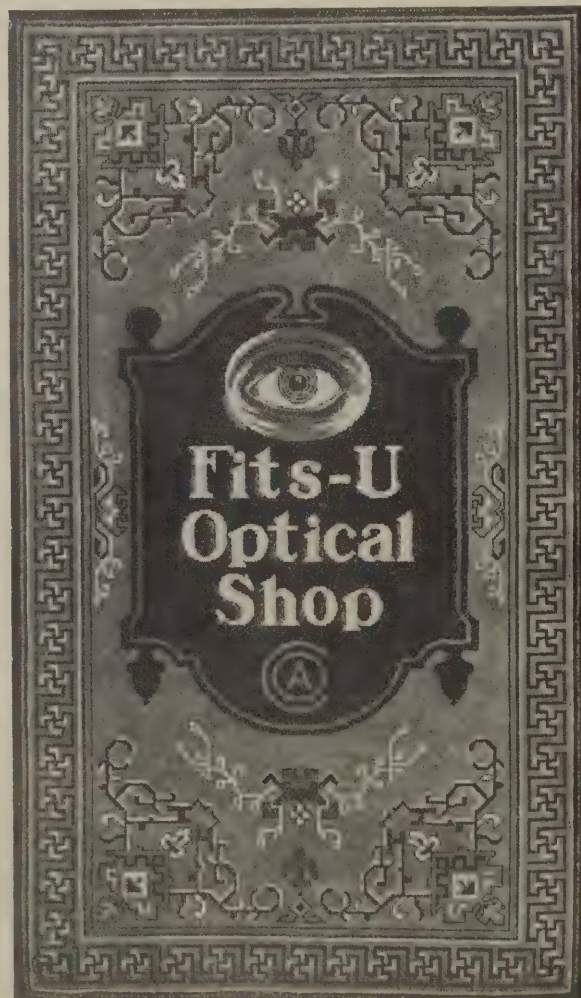
Gentlemen: In answer to your communication of August 20th regarding satisfaction expressed by one of our customers with a pair of Crookes glasses, which we made for him to his prescription, we desire to inform you that this gentleman is a manufacturer of high grade platinum and gold jewelry. He stated that his work, principally, was to examine diamonds used in the manufacture of Tiffany's articles, and claims that he found that he could tell the colors just as well with the Crookes glasses as he could without them; in fact, he found it much easier to examine them and with less strain to his eyes, and is highly pleased with the results.—E. B. MEYROWITZ, INC.

Look at this Unique Offering!

AN oriental rug in unfadable, deep rich blues, browns and ivory colors to harmonize with any style or size of shop.

Wearable, dirt proof, heavy quality, with Fits-U Optical Shop woven into the design, and eye in natural colors.

For full details of the beauty, usefulness and cost of No. 5 M 6 see page 223 of this issue. It is one of the season's big offers.



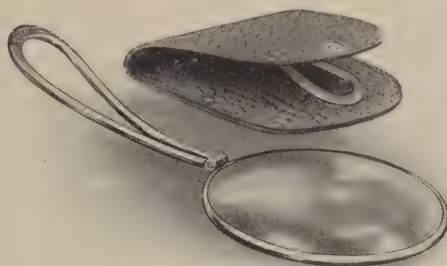
Some Facts Worth Knowing About Steel Spectacles and Eyeglasses

WHEN the small business, from which the AMERICAN

OPTICAL COMPANY has since developed, first began the manufacture of spectacles prior to 1843, silver was commonly employed for high-grade wares and steel for the less expensive ones, which means that most of the spectacles used from that time on

were made with steel frames. "Manufacturing" literally describes the process as then carried out, for practically every operation was accomplished by hand and the output of the individual worker was necessarily restricted. In fact, it is safe to say that more steel spectacle frames are manufactured in a single day at the present time than were turned out during the whole twelve months of 1843. And this, despite the fact that gold-filled Roman Alloy and Alumnico frames appear to have practically displaced steel so far as may be judged from casual observation.

The steel spectacles of our grandfathers' time were not exactly things of beauty. They were designed strictly for utilitarian purposes, and, due to the methods employed in their manufacture, naturally involved the employment of a far greater weight of metal than would be considered comfortable nowadays. By the time they first came to be manufactured in quantities by modern methods, solid gold had come into very general use and there was a tendency to turn out steel frames as cheaply as they could be put together, much of the material being of the poorest possible quality, while a considerable percentage of



Pat'd

Folding Pocket Amoptisopes

the finished work was defective.

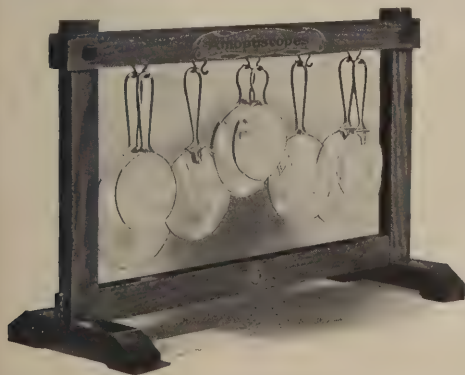
This is still the case to a certain extent today—there is quite as much difference between steel

wares of different manufacture as there is between those made of materials of greater value. The AMERICAN OPTICAL COMPANY was responsible for the inception of steel spectacles in this country, and during more than three-quarters of a century of manufacturing experience, efforts have constantly been directed

toward their improvement. Every optician has more or less demand for steel frames and will find it quite as much to his interest to specify AOCo wares as when ordering gold-filled or solid gold frames or mountings, because both the methods of manufacture and the tools employed in making steel frames are quite as accurate as

those used in working the precious metals. Every pair must be exact as to the eye size, shape and size of bridge, and must have perfect joints and end pieces, before being permitted to leave the manufacturing department. The straps are drilled accurately to standard gauge for rimless styles, and interchangeable lenses will be found to fit as perfectly in the eye wires of AOCo steel frames as though they were made specially for them. In fact, their accuracy throughout will be a surprise to you if you have not previously used them.

Just as the AMERICAN OPTICAL COMPANY was the first in this country to make steel frames, so it has continued to make them in accordance with the high standard of quality and workmanship observed in all other departments, and more high-grade steel frames and mountings are made in the AOCo plant today than are turned out by any other maker. In this connection it may be mentioned that the great varieties of the past are gone. The great sales of today are made in a very few, staple lines—in riding, straight temple, cable frames, spectacle mountings and eyeglass frames. If you have not been using AOCo steel wares, it will pay you to look over the sample line at your wholesaler's. He will show you our White Metal, steel and Roman Alloy lines.



Wise Buyers of Optical Goods

THERE are enough wise buyers of optical goods to make it well worth while for the AMERICAN OPTICAL COMPANY to continue to devote its energy, its skill, its experience, and its organization to the production of the very best, regardless of competitive conditions—one concern working always to maintain the highest standard, with cost and selling price as secondary considerations.

Historic Figure in Optical World Passes Away

AFTER well-nigh fifty years in the optical business, during which he built up the great wholesale house of D. V. Brown, Philadelphia, Daniel Vinton Brown passed away on December 7 last at the age of 65 years.

Southbridge, which witnessed his boyhood and first business experience though he was born in Wilmont, N. H., is full of reminiscences about the personal charms and ability of "Dan" Brown.

Mr. Brown's apprenticeship prior to his entrance with the American Optical Co.—which, by the way, at that time was not known as the American Optical Co., but as R. H. Cole & Co.—was in the Hamilton Woolen Co.'s Mill at Globe Village, Southbridge, where it was customary in those days to go to work at 5 A. M. This was hard, as we view it in these days, so that Mr. Brown, knowing what it meant to work, always had a soft spot in his heart and a fellow-feeling for the man at the bench. Mr. Brown's business ability was formed early in his life by the thought that to get along, close application to the work before him was the best and safest course to pursue. He always took a special pride in his work at the bench, and often in later years, spoke with pride of how he used to hold his file and the care he took of his tools in order to get the best service from them and the neatest finish on the work.

So it was at this time that he began to reveal the business ability that later brought him such success.

It was his custom long after he formed the closest friendship with the late George W. Wells, to return to Southbridge two or three times a year. He would visit the shop, chat around with old bench mates and visit his sister, who still lives in the Globe Village section of Southbridge.

Daniel Vinton Brown was born July 22, 1850, at Wilmont, N. H. His father early moved to Southbridge, Mass., to enter James A. Gleason's box factory. Later the father went into Gleason's grocery business. In the meantime Daniel was growing up and attending school in the Globe Village. After graduation he



Daniel Vinton Brown

headed for the American Optical Co. where, in 1867, he joined with that now historic group whose pioneering foretold the world-wide growth of the great American optical industry.

About the year 1880 he left the AOC Co., becoming one of the founders of the Southbridge Optical Co., and when the new company moved to Boston he went with it. Shortly thereafter he entered the employ of James W. Queen & Co., Philadelphia. The first thing he did upon arrival in that city, as he used to tell it, was to deposit a small amount in the bank to ensure getting back home to Southbridge if the worst happened. But he remained and next became associated with the Philadelphia Optical & Watch Co. Two or three years before the Philadelphia Optical

& Watch Co. ceased to do business, Mr. Brown, in 1890, founded the house of D. V. Brown, Wholesaler in Optical Goods, in one room on the second floor of 734 Sansom St. The size was 18 x 45 feet and half was store or office and half was shop. Many employees are still with the house who were with Mr. Brown when he started. His business ability and sterling qualities brought such results that in regular succession, at suitable periods, came the occupancy of the first and second floors of 734; then came the first, second and third floors of 740; then 738, until this business now occupies the three floors of 736, 738 and 740 Sansom St.

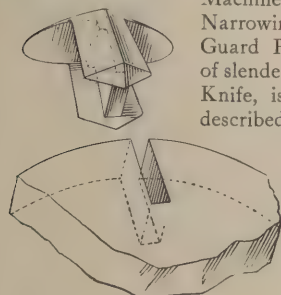
To see him justify expectations by building up one of the strongest wholesale businesses was one of the greatest delights of his many friends. Under the firm name of D. V. Brown he continued in the optical business up to the time of his death, although a large measure of his responsibilities during his later years fell on the shoulders of his son, Andrew.

"Dan" Brown's was a big, magnetic personality that endeared him to hosts of friends. He could adapt himself to any social or business occasion, and upon these qualities and his selling genius was built the power and prestige of his optical house.

The Cement Mounting That Won Over the Skeptics

IN view of the rapidly increasing development of the KeeLocK mountings we are setting down some instructions here how to properly fit the KeeLocK Fits-U.

After several months' comment and trial of KeeLocK goods, we have found that an equipment consisting of a KeeLocK Slotting Machine, M-188 Widening Plier, M-187 Narrowing Plier, M-322 Lenstick, M-280 Guard Protector, One Alcohol Lamp, Pair of slender pointed Tweezers, and special scrap-Knife, is advisable and besides the above described equipment a close observance of the following method is recommended.



KeeLocK, Pat. July 16, 1912
Other Pats. Pend.

First, see that the strap is properly fitted to the slotted lens. This mounting should slip into the slot freely. To obtain this it may be necessary to use one of the pliers referred to above. To make the straps further apart for thick lenses, use the widening pliers, gripping the wedge in the strap with the jaws of the plier and pressing hard enough to cause the metal of the wedge to spread out, but not hard enough to cut through. To bring the straps closer together for thin lenses, use the narrowing pliers gripping outside of the strap and putting the pressure on these straps bending them closer together as desired, the idea being to have these straps fit closely but not snug over the surfaces of the lenses. After this is accomplished (which is a rapid operation, as it is very seldom that adjustment has to be made) you take the slotted lens, hold it near the edge and move it forward and back, over and through the flame of the alcohol lamp until the lens is quite warm. But first make sure the lens is cleaned thoroughly by dipping in alcohol and wiping dry with a clean cloth, as it is imperative that lenses be free from water or moisture of any kind in order to get the best results.

Then place a piece of the Lenstick Cement in the slot, using the tweezers to press it in from both sides. Be sure that the slot is practically filled up with the Lenstick. Lay the lens down in a clean, dry place and then take the strap of the mounting, passing it back and forth in the flame so as to heat it slightly. Place a tablet of Lenstick on one side of the strap, heat again, and with the tweezers press it thoroughly down into the strap. Repeat this operation on the other side of the strap. This gives you a strap in which the Lenstick is thoroughly embedded, as well as in the slot of the lens. It is well to file all corners of the slot.

It must be kept in mind that the filling of these corners and the space around the wedge is of great importance as it is the combination of the Lenstick Cement and interlocking of the wedge in the mounting that makes the security of the KeeLocK mounting.

We suggest that it is better to use plenty of Lenstick rather than not enough, and experience will soon teach one the amount necessary to use in order to obtain satisfactory results.

Now, having prepared the lenses and straps separately with the Lenstick, take the lens in one hand and the mounting in the other. (It is sometimes advisable to hold the mounting by a pair of tweezers.) They are both heated gradually and thoroughly by moving back and forth through the flame. Slight pressure of the strap into the slot when the Lenstick becomes hot allows the mounting to slip into place, when it is at once removed from over the flame and held firmly in position until the Lenstick has an opportunity to set. It is then possible, with the use of the special scraping knife, to remove the Lenstick which has oozed out from around the straps.

Care must be exercised not to put any pressure against the strap or lens that will alter the position when the Lenstick is setting.

We also wish to caution against overheating the straps. If enough heat is used to tarnish the metal, the Lenstick is apt to be burned and its adhesive quality thereby affected. While the construction of the KeeLocK does not depend entirely on the adhesiveness of the Lenstick, but principally upon application of the wedge and the cement that fills the space between the wedge and glass, it can be readily seen that if the proper amount of Lenstick is used and instructions followed with regard to heat, etc., there is no possible chance for a lens to become detached from the straps.

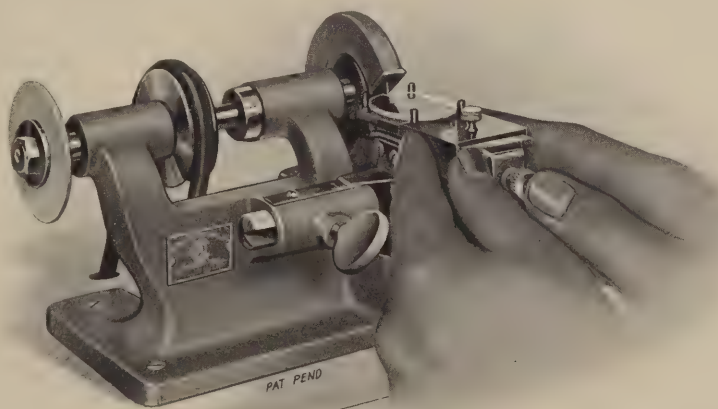
In order to separate a lens from the straps, take hold of the lens near the edge, move it back and forward, over and through the flame of the lamp until it has become heated to such an extent that the straps can be pulled out of the slot.

In these instructions it will be noticed that "LENSTICK" is suggested. This is a specially prepared cement that is made in tablet form shaped to and for especial use in KeeLocK mountings.

When this particular kind of cement is used in the manner above described it will be found that satisfactory results will be obtained. It can be used, however, on all styles of screwless mountings. We therefore caution against the use of some of the other forms of cement that are now upon the market.

The KeeLocK mounting has done more to win over the great number of skeptics on the screwless subject than all its predecessors. It must be properly fitted to the lens to ensure satisfactory results,

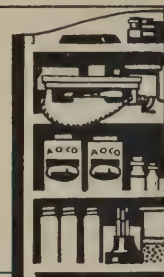
which has moved us to set down these explicit instructions. A little patience and care in the mounting of KeeLocK will convince the entire trade that we have here the ultimate "Highest award" screwless mounting, and a bona fide proposition. If you're still skeptical try it out and give the KeeLocK a fair, unbiased test. See your jobber and have him demonstrate this rigid lens holder. Now for 1916.



"The simplicity of the KeeLocK is one of its predominant features"



Practical Talks with the Shopman



EDITOR'S NOTE: This article is the third of a series of five Talks on Surface Grinding and Polishing by R. L. Gordon of our Optical Equipment Division. The subject will include interesting and instructive articles each month on: 1. The Nature of Optical Glass; 2. The Materials Used in Grinding and Polishing; 3. The Machinery and Tools Needed for Surface Grinding and Polishing, together with notes on the proper care of the same; 4. Methods used in Grinding and Why; 5. Methods of Grinding Special Lenses, such as Kryptoks and Ullex One-piece Bifocals.

III. Machinery and Tools Needed for Surface Grinding and Polishing

THE machines used for grinding are divided into two distinct classifications; those used for grinding sphericals and those for cylindrical surfaces. The former being the older and simpler type, will be first described.

The mechanical points to be considered in purchasing surfacing machines are the means provided for the free running of the vertical shaft, the protection afforded the shaft from grit getting into the bearings, and the conveniences offered the operator for handling the work.

Made in various styles, the essential elements are a vertical revolving spindle, to the top of which is attached the tools; and a lever shaped handle for holding the lenses against the tool, as is shown in figure 1, which is an ideal machine of this type. A frame, containing upper and lower bearings for the vertical spindle, is enlarged at the top to hold a pressed steel pan for catching particles of abrasive as they fly off from the tool. A pulley for driving the spindle, and means for attaching the handle so that it may be placed in the most convenient position for the operator has also been provided. The end of the spindle is made tapering to fit corresponding holes in the tools or lap, so that it is only necessary to drop the tool on the end of the shaft to permit of its being driven or whirled by the shaft beneath it. This type is designed for bench use, and countershafts or motors must be provided to drive the pulley.

Figure 2 shows a bench provided for this purpose in which the power is taken by means of belting from a countershaft under the bench, which in turn is driven by a main driving shaft running in bearings at the base of the bench and driven by a motor under the bench.

Figure 1 shows the motor at the back of the bench with a belt connecting directly to the machine. A special switch starts and stops the motor. With this type there is absolutely no power wasted in driving the parts other than those needed for the operation of the machine. On account of the expense of motors this type is higher in first cost but more economical in the final analysis. A recent improvement in this design is the adoption of an electric switch controlled by a foot lever for starting and stopping.

With all belted machinery it is advisable to have as great a distance as practical between the pulleys, as the belts and bearings are

strained very much less and will run much longer without attention. For this reason it is desirable, whenever the room is available, and does not cost too much, to have a fairly wide bench; 24 inches is as narrow as good practice will recommend, while 30 or 36 inches will give a smoother running outfit. This Company is now prepared to make up special outfits of this nature at short notice and its suggestions along these lines are available to its customers at all times.

Figure 3, displayed on the back cover, shows a pedestal type which requires no bench. It is also arranged so that two speeds may be had from the vertical spindle by means of specially arranged pulleys. It is a particularly good model for shops in which only one surfacing machine is required.

Our M25 is a pedestal type machine in which the motor is located in the base of the machine, and directly connected to the vertical spindle. On account of this construction it is absolutely the most economical in consumption of power. The motor being of a special design the first cost is necessarily high. As in all high grade machines it must receive careful and intelligent attention. The

advantage of small floor space and the ability to locate it wherever electric wires may be carried, makes it an ideal machine for many purposes.

Where the amount of surfacing done is sufficient to warrant the installation, three or more spindles on a bench makes an ideal combination. One spindle, which should be used for the first roughing process, will have its bowl or pan partly filled with the rough emery and water which may be applied in considerable quantity with a spoon; the excess being thrown back into the pan may be used over and over again. The second spindle should be reserved for the fining processes where the emeries are best

applied either by the finger or by a coarse, stiff brush. These being more expensive than the roughing emeries, should be applied in smaller quantities. The third spindle should be used for the polish operation.

A recent and modern installation by this Company was a six spindle bench for use in a large sized shop. On this bench was one roughing spindle, one fining spindle and four others arranged with automatic polishers. On the back was arranged a special rack for holding the surfacing tools and the gauges. Fig. 4 shows one-half of this outfit.

The advantages of the multiple spindles arise from the fact that in changing from the use of coarser to finer emery it is essential that none of the coarser get mixed with the finer grades. With a

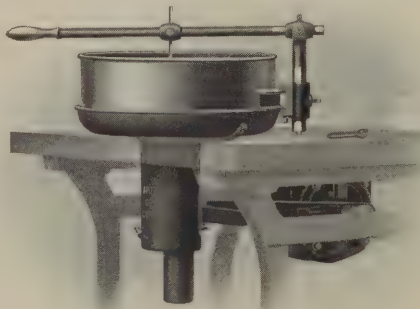


Fig. 1. M21m Surfacing Bench



Fig. 2. M21B2

single spindle it is necessary to carefully remove all particles of grit from the tool and handle and to replace the pan with one in which there is no coarse emery. The same process has to be repeated after the fining has been done, and previous to polishing. With the use of several spindles, it is only necessary to move the tools and lenses from one pan to the other, and even though but one man is employed in surfacing this is the ideal system, especially when he is kept busy all the time. Of special advantage in this connection is the use of one or more automatic spindles for polishing. If it is necessary to use two men, one can work at the roughing and the other at the fining and polishing, while if three are employed one will take care of the roughing while the other two will fine and polish as well as block the lenses and remove and clean them. Such an arrangement where future growth is to be considered, offers exceptional facilities for expansion.

(To be Continued.)

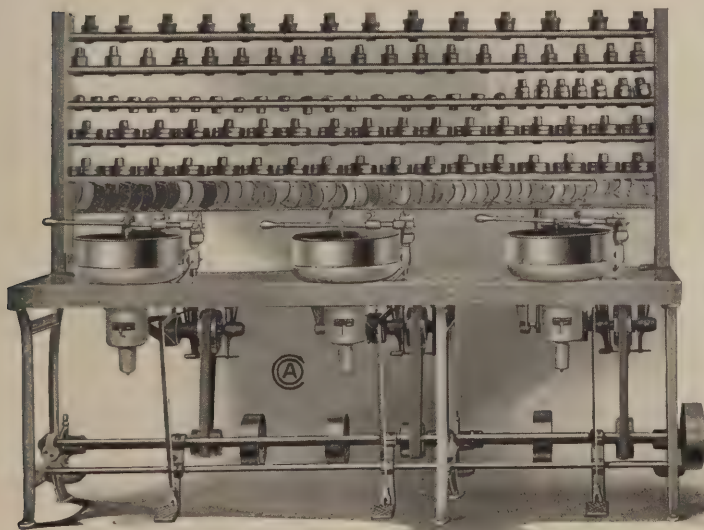


Fig. 4

Rice Leaders of the World Albums

FOUR hundred optical concerns out of 4,000 contestants have just received the beautiful souvenir album, showing the 100 best window displays in the year's contest of the Rice Leaders of the World Association, ended last May.

This album in gold, dark blue and sepia is the most exquisite and complete collection of Window displays ever gathered together. The half tone reproductions are a revelation of the effectiveness and ingenuity of window display work and the extent to which this comparatively new merchandising method has spread.

Every optical dealer who entered the great contest receives one of these association albums. The value as a reference

book in dressing up future windows is considerable, aside from its interest to the contestant himself.

The optical displays illustrated in the book are those dressed by William F. Ried of the Kaufmann & Baer Co., Pittsburgh and by F. W. Moore Manager of the Chinn-Beretta Optical Company of Stockton, Cal. Says Mr. Moore:

Stockton, Cal., Aug. 24, 1915.

Gentlemen: We acknowledge with pleasure the receipt of your valued communication of the 13th inst. advising us of the fact that our Stockton store was one of the Rice Leaders of the World Window contest winners; we are also pleased to advise you that we have received our prize check.

We note with great satisfaction that ours was the only optical establishment in California winning a prize; had this been the first prize, the writer could not have been more elated. To tell the truth I did not think we had a chance to win a cash prize but wanted that Album so set out to get it, with the result that we get the Album, an "Award of merit" and a check. Is that not enough to make one feel elated?

The results of our window displays featuring only one particular product of the AOCO at a time, surely have been productive of increased profits. The Association Banner has accompanied each and every different display made ever since we have had it, and customers and friends now recognize the same as something worth while. The beautiful electrical sign display of your products in San Francisco has also helped to impress many of our townspeople, and oftentimes we are asked to show the products of the member belonging to the association; most people, however, know the quality of the American Optical Co.'s products, and know if they get AOCO goods they are getting the best.

Of the goods sold in our store, 97% are products of the American Optical Co. and if the quality of the goods were not of the highest standard, standing up under every possible condition we would not feature them as we have and will continue to do.

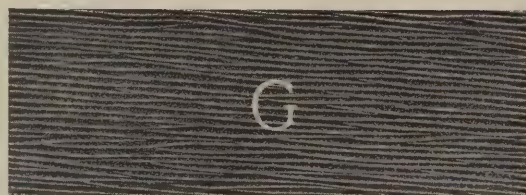
Again thanking you for your kind favor and the interest shown in our behalf, we are

Very truly yours,

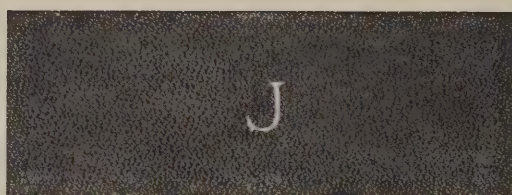
CHINN-BERETTA OPTICAL CO.

F. W. Moore, Mgr.

Marked Superiorities in



G. Long Grain



J. Water Grain



Q. Crêpe

- Full thickness of leather over all edges. Wears long and hard. No skiving. 9
- Making steel rustproof. Leather and lining vulcanized to metal by special process which prevents air and moisture from rusting steel. 10
- Heavier gauge steel for cover materially increases strength of case. 11
- Linings of high grade, fast-color velvet or selected chamois. Smooth fitting. 12
- Patented self-closing, noiseless positive action Spring. So small as not to mar contents. Also constructed off center in wide eyeglass size to avoid injuring Varsity springs. 13
- Continuous hinge distributing strain along the body of the case, ensuring that smooth, automatic snap when opening and closing AO cases. 14
- Lettering space for two lines on wide straight lip is valuable advertising space. 15

ORDER FROM YOUR JOBBER. ASK HIM ABOUT OUR BRASS DIE PR

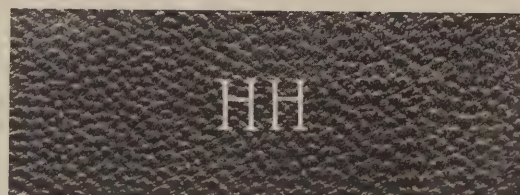


AOC Co Streamline Cases

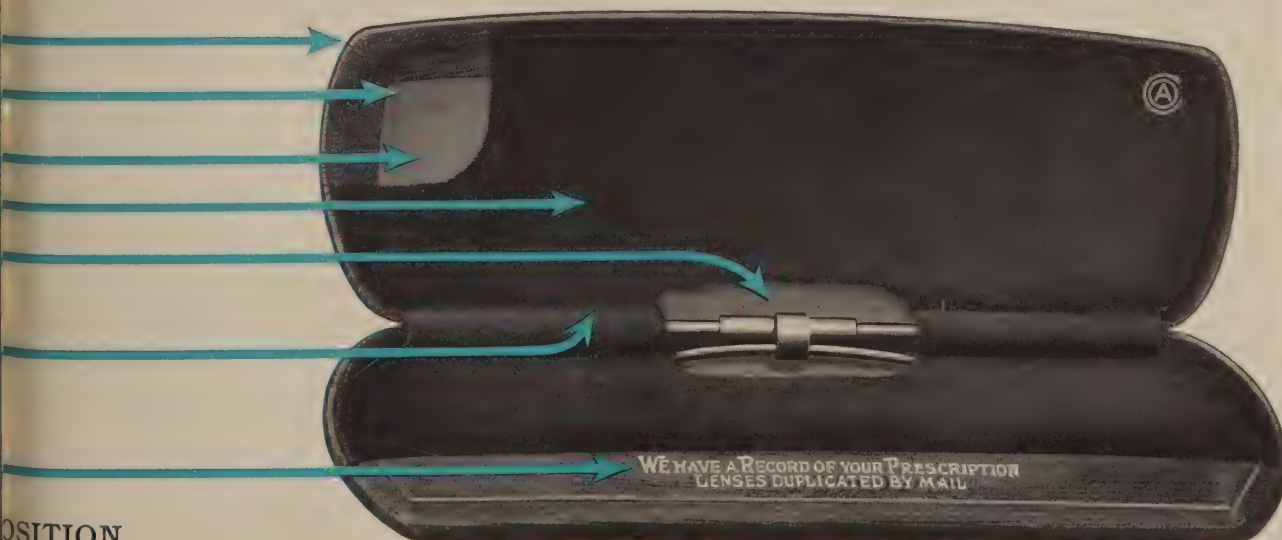
- 1 Oval top modified to provide flat surface for even contact in lettering.
- 2 Tight, snug-fit covers. No gaping corners, or bulging folds.
- 3 Popular thin model, yet deep enough for torics. It slips into the vest pocket comfortably.
- 4 Clean cut, sharp brass die lettering. Pure 23K gold leaf on handsome leathers.
- 5 Continuous creasing; sharp, even impression with special dies.
- 6 Overlapping cover at corner to facilitate easy opening with the thumb.
- 7 Generously wide cover. Protects both the wide lip and the glasses beneath. Dust is kept out, and the lenses doubly protected. Easy to insert or take out glasses from the case. The case is roomy and strong without losing its graceful lines.
- 8 Famous streamline body, characteristic of AOC Co thin model cases.



B. Lizard Grain on Buffing



HH Morocco Grain on Buffing



POSITION.



R. P. Spencer is Made General Sales Manager

WITH the opening of the New Year we take pleasure in announcing the appointment of Robert Platt Spencer as Sales Manager of the American Optical Company.



R. P. Spencer

Mr. Spencer came to us early in the Fall, after a broad and intensive experience in the advertising and selling field. He was for many years Sales and Advertising Manager of the Geuder Paeschke & Frey Co. of Milwaukee, manufacturers of tinware and enameled ware. Subsequently he became Sales and Advertising Manager of the Federal Motor Truck Company of Detroit, from which position he resigned in 1914. At this time he helped incorporate and organize the Denby Motor Truck Co. of the same city. He was immediately made a director of the new company in charge of its sales and advertising, continuing in this capacity until the opportunity with the American Optical Company presented itself last Fall. The new Sales Manager is a man of demonstrated organizing and executive ability, possessing sound and discriminating judgment with a direct, outspoken manner of speech and a way of getting results.

R. P. Spencer was born in Buffalo, N. Y., June 16, 1884. He attended the Lancaster, N. Y., and Masten Park High Schools, the Spencerian Business College and Milwaukee Law School.

In the coming year he will be one considerable factor in establishing a new era of mutual understanding,

better merchandise, service and efficiency. As he expresses his policy to the sales force his motto is: "Investigate carefully, judge impartially, decide definitely; then never retract, never explain. Just get it done."

Which, according to the judgment of those who have been associated with the new Sales Manager in previous successes, has proved quite a fair way of accomplishing things.

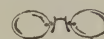


Unusual Kryptok Increase

SALES of AOCo Kryptok Bifocals for the year ended Dec. 31 last have shown a remarkable increase over the previous year.

What does this mean? That the general demand for Kryptoks increased this much the country over? We think not. We modestly attribute our unusual increase, therefore, to a growing appreciation of the care and exactitude with which AOCo Kryptoks are made. We are getting the business because we give Quality plus liberal and quick Service.

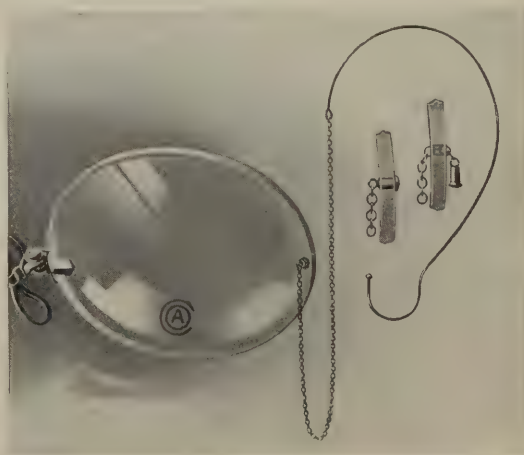
This normal growth has necessitated an increase in our force to maintain the standards we have set and the increased production necessary. Try AOCo Kryptoks.



The Catch of the Seasons!

"Great oaks from little acorns grow" runs a familiar saying, which reminds us of the great sale growing from our little acorn, the Fits-U Catch, patent pending.

So simple is this new eyeglass holder that it seems hardly to need description. By the clear illustration here represented you will



observe it consists merely of a drilled hole, a button head catch with a short barrel to hold it in the hole. To remove it merely slip the chain, earloop and all through the hole.

The Fits-U Catch is the niftiest improvement out, and it costs you less trouble and no higher price than regular earloop chain snaps.

Amoptico

Reg. in U. S. Pat. Off.

Vol. IV January, 1916 No. 10

Published Monthly by
American Optical Company
1833-1916

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Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.

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H. T. Reeve, ... Science and Research

EDITOR, George L. Treadwell

Giving Just a Little Bit More

GREETINGS FROM THE GENERAL SALES MANAGER

FROM time immemorial it has been customary for people in all walks of life to moralize in a perfunctory way on what has passed and to frame good resolutions for the future.

"Some people say that a good way to start the New Year is by resolving not to repeat the mistakes of the past. A good idea, for the man who twice stubs his toe on the same mistake deserves to be a cripple.

"So when the editor commanded me as an addition to his editorial force, I resolved not to contribute to the huge tomes of platitudinous New Year Greetings.

"That Will Guide Us to Things as They Should Be—"

WHEN the last trip is finished for this year and the orders are all written and turned in—

When the plans for the new year are ready and we are waiting again to begin—

Let us turn from our joys a moment, let us pause on the eve of the year

To think of the friends who've helped us on with encouragement and cheer.

SOMETIMES it's been a struggle, more often it's been a joy—

But you, who have made it a pleasure, outweigh all the things that annoy.

May your dearest of wishes be granted, may this year bestow every boon,

And may all your torments and troubles be sent into limbo soon.

SO here's for a merry old twelvemonth and here's for a Happy New Year,

May the light of the hope that is in us remain ever vivid and clear,

And, boys, in these coming to-morrows, let us all keep our eyes on the Star

That will guide us to Things as They Should Be, when we've grown beyond Things as They Are.

"Your business, our business, Peculiarly true is this, because of today, is simply the result of the the great number of successful use or abuse of the opportunities optical men who received their of yesterday. Our business was first training here and graduated, founded and has grown to its present proportions on the rock of reflecting great credit on the institution that started them off on the mutual understanding and profit. high road to success.

One of the limitless opportunities still before us is to become better acquainted with our mutual aims and aspirations.

"There has been much sentiment between us in its upbuilding, belying the old adage that 'Business and sentiment do not mix'; for probably there is no business on earth the size of this one in which the officers and employees of a company have the intimate touch with its patrons that we have. We shall offer you every opportunity to know us better and to understand that we fully realize how essential it is that we conduct this business upon the plan of giving you just a little bit more in the way of merchandise, service and courtesy than actually seems necessary.

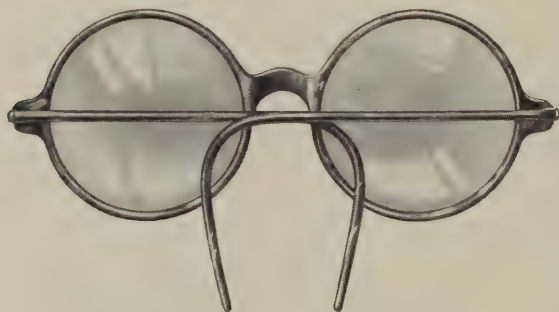
The Twentieth Century Flier!

THE Speedster, No. 8060. This is the latest, up-to-the-minute style in all-Zylo specs.

It has four distinctive features besides its handsome appearance: two P. D.'s—65 and 68; and choice of two colors of stock—wine colored or dark mottled zyloware. Both finishes are beautifully smooth and look for all the world like real shell.

The Speedster is fitted with 45 mm. round eye, and selected mi-coquille amber, Fieuzal or smoke lenses.

Together with these goes the handsome, hard-wearing new Frostol case, No. 367 size, lined with wine-colored Canton flannel and just about the neatest thing you've seen.



Our Latest—The Speedster—No. 8060

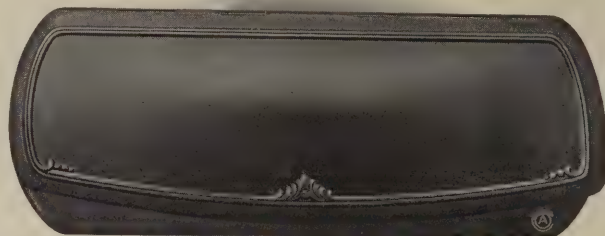
Two choices each in P.D.'s and stock colors are most attractive inducements. But they are not all. We offer quick deliveries from stock in reasonable quantities.

Then price! For \$7.50 per dozen, at a suggested retail price of \$1.25 per pair you are realizing 100% on your investment. Enough for any man, isn't it? Speed up to your jobbers and look them over.

The Day of Metal Case Finishes

LEATHER is scarce. What is the trend in case finishes? Metal finishes for one thing, because they are sanitary, hard wearing, economical.

Have you noticed the new Frostol, exclusively an AOCo new metal finish style? Economical and the first step ahead of all competition.



Pat'd

Step two begins today when we introduce the new Gun Metal finish. This is another exclusive AO metal finish. But we planned it long before the scarcity of leather bothered the market.

And now we announce it—the finest optical Gun Metal case on the market. A superb, soft, lustrous black, staunch and artistic—for \$5.25 per dozen, slightly above our 328 P.A.2. At present made only in No. 327-2 G.M. size. We wish you would look over these new metal finishes and stamp them with your approval.

Says Sir William Crookes Himself—

7, Kensington Park Gardens,
London, W., England

“I have tried the Crookes spectacles and they are very excellent and appear to suit my sight very well. I like the darker tint as it takes off the glare and does not at all interfere with my appreciation of colour, even in the lighter shades.”

WILLIAM CROOKES.

Let's Start the New Year with a Few Hand Stands

PA, Ma and little Wood Stand are now ready to do a good turn for the trade, just for a little New Year's present.

They know how to attract attention without over-dressing. They never intrude, but fit into any scheme of things with quiet effectiveness, and a style all their own.

Pa attracts attention because he's tall and stately and bears a commanding appearance. Ma is satisfied just to help her "better half" and bear her share of earthly goods, while little Wood catches the eye of young and old alike because he's cute. He holds the stage and balances cases, glasses and readers with equal facility on his young head.

Nobody has ever seen them apart. They sell for all public window performances for \$1.50 the set complete. These hand movable stands are light weight, with soft, dark, mahogany-red finish and range in height from 5½ inches to 10 inches.

First it was the Model Man, then came the Glad Hand and now we bring out the Flashing Sign and these new stands—all part of a plan to develop a complete line of window display material. Shortly we shall announce another inexpensive and novel window display accessory, to supplement the above line.

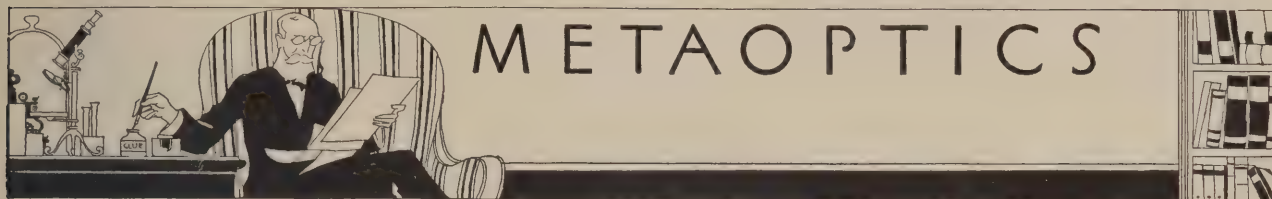
The dealer who invests in this line of window helps, supplemented

by all the cards and literature which we supply, is going after increased business in the correct, systematic way and with the best equipment obtainable.

Our material is permanent and can be used in a great variety of ways as our monthly window displays will show. Add the Hand Stands No. 17D6 now and start trimming up your window for bigger, better business.



17D6



NOTE: This is the ninth and last of a series of articles, each one complete in itself, but the whole forming a comprehensive study of the complex nature of light and its properties. H. T. Reeve of our Scientific Staff has endeavored to make these articles simple, and interesting to everybody from month to month. If you have found them interesting and instructive and want another series write in and tell us so.

IX. The Invisible Spectrum

(Concluded)

LAST month we described in a general way the properties of the Infra-red rays, apart from their action on the eye.

Reverting back to ancient history we find that it was the custom of the old Arab priests to make pilgrimages to Mahomet's tomb and after setting eyes on the tomb it was considered by them a sacrilege to gaze on any other earthly object. Consequently it seemed to be the custom to have crude furnaces built close by in which bricks were heated up as hot as possible. When an Arab desired to end his sense of vision he had only to have a white hot brick stuck up in front of him and then gaze upon it closely and after a while he could be led away blind.

Doubtless the Infra-red rays emanating from the bricks were responsible for his loss of sight, because it is highly improbable that they were ever made hot enough to emit little, if any, Ultra-violet radiation.

On this assumption then, may be argued the fact that workers around furnaces would suffer in the same way although to a far less degree and it seems to be a fact that such workers have instinctively resorted to glasses of different colors to protect their eyes.

It is also a fact that the glasses which were usually chosen by such workmen were not at all resistant to Ultra-violet rays.

The study of this subject was the prime reason for the researches of Sir William Crookes, who came to the conclusion that Infra-red rays coming from furnaces were responsible for the cataracts developed by glass blowers and people engaged in furnace work.

On a laboratory scale Sir William developed a glass that would cut out about 96% of Infra-red radiation, but the glass has not as yet been developed on a commercial scale, owing to difficulties in manufacture.

Much Experimental Work Yet to be Done

IN this line of work there yet remains a considerable amount to be done. Also there is the question of the right combinations of substances to be developed.

Successful American Experiments

IN this connection it may be mentioned that the experiments of an American physicist have borne fruit towards the discovery of an effective industrial furnace and welding glass. Until this time the discovery of a glass that would allow gauging temperature and welding under terrific heat and light without injury to eyesight was practically unknown.

Gauging Temperatures with Blue Glasses

MODERN science discovered that the old blue glasses cut down glare but still let through Ultra-violet and heat rays, so that the workman's sight was endangered after a spell. Also, owing to the fact that the gauging of temperatures, particularly in steel work, was a matter of experience and observation of years with the workmen, it was impossible to change from the traditional blue glass to amber or others more effective. A differently colored glass would destroy the workman's valuation of temperatures.

A solution of this problem of how to retain the blue color for the old skilled worker and how to make a glass for the new workers in any color to reflect heat and Ultra-violet rays and protect the eyes, was the problem of the physicist. How he solved it is not yet ready for announcement. But though it is yet in the experimental stage, it is believed that the new patented process will make safe an industry that has been fraught with injuries to eyesight, both temporary and permanent.

Patent Rights Acquired to Invention

WE have acquired rights to this patent which treats a lens for the first time, we believe, in a unique and effective way. The credit due to this eminent physicist, it is believed, will be universal for the discovery of a process making for industrial safety.

A Year of Progress

THE marvellous progress made even within a year in the study of colored lenses for everyday and industrial uses is only the small beginning of further great researches into the subject.

For the present this will conclude the series of articles on the spectrum. We have discussed in a general way the properties and characteristics of visible and invisible light in their relation to the eye and we have also discussed the means necessary for protecting the eye from sources of radiation, known or supposed to be harmful.

EDITOR'S NOTE: The preceding nine articles were aimed to give an interesting and instructive exposition on light and its properties. They were attempts to deal with the subject in a most elemental way. A subsequent series would go more deeply into the complexities of Light should the series be desired.

In the future it may seem desirable to proceed still further into the intricate scientific details of these interesting subjects. If you have found this series of value and interest write in to the editor or to H. T. Reeve.

THE END.



Join the Advertising "Joys"

THERE are "Joys" and "Glooms" in advertising, as in all the other activities of this busy world. The "Glooms" insist that advertising is a waste. Perhaps it is—the way they do it.

But the advertising "Joys" know better. Every advertising "Joy" knows it pays to advertise, because his bank balance proves it.

Why not be an advertising "Joy" in 1916? We make it easy for any optical dealer. Every month on these pages we are offering a line of attractive up-to-date advertis-

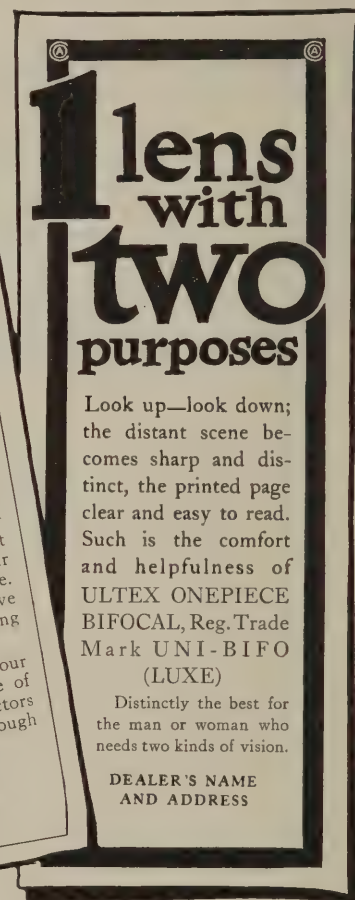


Window Card No. 5W26

THE AOC's skating girl is easy to look at, even in this miniature illustration. The real thing in a three-color poster effect will stop passersby wherever this window card is shown. Furnished free.



No. A62



No. 21B

THESE newspaper ads give the sort of striking display that compels the readers' attention on the most crowded page. Electrotypes furnished free.

ing helps that have a remarkable record for increasing the sales of dealers who use them regularly and intelligently. Most of these advertising helps are furnished to dealers free, and when a charge is made for the more expensive novelties it is always at a nominal cost.

There are mighty few business men who have such good opportunities as AOC's dealers for doing effective adver-

tising at an exceedingly moderate cost. Practically all of the big first cost of materials, designs, etc., is shouldered by the American Optical Company—not entirely from philanthropic motives, but simply because we realize that the best and quickest way to increase our own sales is to increase yours.

We can think of no better New Year's resolution for the enterprising optical dealer



than a determination to make 1916 an unusually profitable year by means of a consistent, persistent advertising campaign throughout the next twelve months.

It is, therefore, moved and seconded that all good AOCo dealers join forces with the advertising "Joys" for a big, live 1916 campaign. All those in favor will please signify by saying "Joy."

The "Joys" have it!



The New Flasher!

THIS splendid Toric sign display will work in your store window both day and night. It is printed in four colors—green, blue, orange and black, on a special paper surface cloth face that has all the appearance of glass without the objectionable danger of breakage. Space is provided for imprinting dealer's name. By night it flashes intermittently, controlled by an automatic socket plug which requires no attention or adjustment. The 11½" x 18½" wooden frame has a natural oak mission grain, finished in green. No. 10D2 is shipped complete with five feet of cord, socket plugs, lamp receptacle and universal automatic flasher for \$5.00 net.

THE NEW RUG, No. 5 M 6, is the replica of a rare Chinese design.

It took us six months of shopping and experimentation before we found the concern and design we wanted. A rug with long wearing qualities was necessary; it must also harmonize with any interior, carry an optical message in its weave, and three colors—all at a price not prohibitive and within the advertising means of the average dealer.

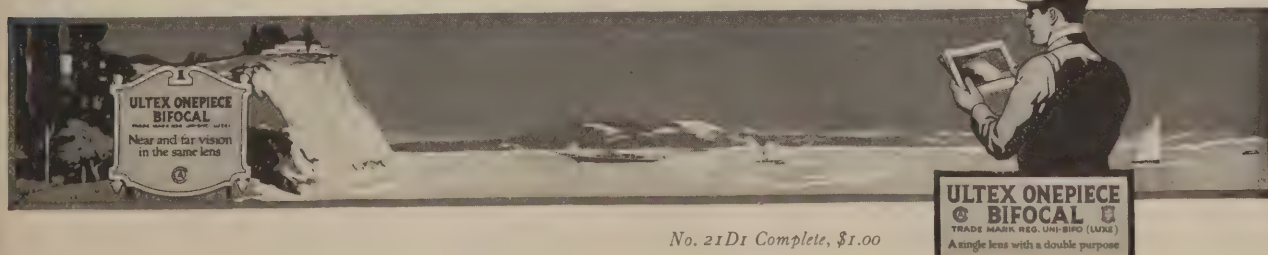
And strange to relate, we found this combination in a concern admittedly the leading rug makers in the country, whose entire business is ordinarily confined to the highest grade rugs only. By the promise of a large quantity purchase we have secured a very low quotation.

We are therefore able to offer this handsome new shop fixture for \$7.50, F. O. B. Southbridge. It measures 36" x 63" and will prove a splendid, useful advertisement when placed inside your shop door or before your fitting table or counters. Order by No. 5 M6. See page 210.



"Flashes by Day and Night"

BELOW is a remarkably effective Ultex Onepiece Bifocal display in four colors—red, orange, black and blue. It is about four feet long and comes in three sections which are joined together. The man in the display is an independent section which shows the line of eyesight by a string extending from eye to book and from eye to distant building on the cliff shown in the display. Shipped complete with instructions for assembling for \$1.00 net.





Start the Year Right With a Kryptok Window

WE dassen't holler "One Million Kryptoks for 1916." Someone hollered that a year ago—'twant us—and forgot to announce how near they made it. Have you had a tip yet?

But if a questioning mind should rise up in meeting and ask us how we came out last year we would express ourselves in terms of force. That is, we would say "In 1915 we practically doubled the number of employees in our Kryptok department."

Then we would add that the sales of AOCo Kryptoks in 1915 increased beyond what we believe to be the average increased demand throughout the trade. For the demand for Kryptoks didn't increase uniformly. You know that better than we. Ergo, somebody's been taking business away from somebody. If you tag us, then, we're it.

So taking the trade at its own happy valuation of our esteemed Kryptoks, we suggest for a modest 1916 slogan, "Buy a Million AOCo Kryptoks." To chant this properly the emphasis must be placed on the AOCo.

Now, it is a well-known peculiarity of our optical dealer that the call of a Kryptok is sweeter to him than a bottle of Sarsaparilla, Caruso-on-Victrola or the lure of a KeeLock, and in this he is joined heartily by a bifocalized public.

So it seemed to us that to start for the Million we must open up our windows and let a little light in on our proposition. And here you have it.

This "Buy a Million" window shows a table, a lamp, golf-bags, a chair, coat, bag and such easily borrowed articles as make it effective, simple and quickly furnishable. The Kryptok card at the back centre we supply free. The short "read or play" card you can get printed around the corner. The card in the lower right corner we sell at \$1.50 complete with lenses. So let's start the New Year right with a Kryptok window.

NOTE:—After you've bought the Million, this window will sell it!

The Great New Demand of the Hour

MANY people dislike its color!
Some churches forbid its use!

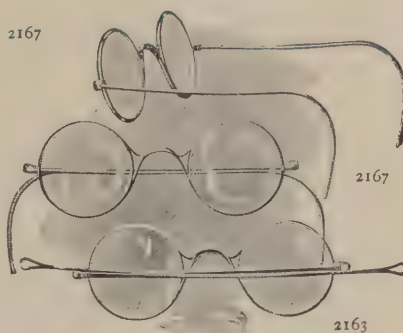
It is not exclusive enough; people want something precious, like platinum!

These are the chief objections to yellow gold by those who dislike its color and want "something different."

These same arguments are the very reasons for the existence today of a precious new alloy that carries the effect of platinum at a price slightly higher than gold. Its name is White Gold.

The large public known to be continually on the search for something new and different can get White Gold at a price between platinum and regular gold. This public is sufficiently large and the White Gold costly enough to make it an exclusive proposition for the most fastidious. It has already come into vogue.

Its brilliant white finish is a gifted outward evidence of many intrinsic merits. The color penetrates to the very core of the frame or mounting; no matter where cut, White Gold shows pure white.



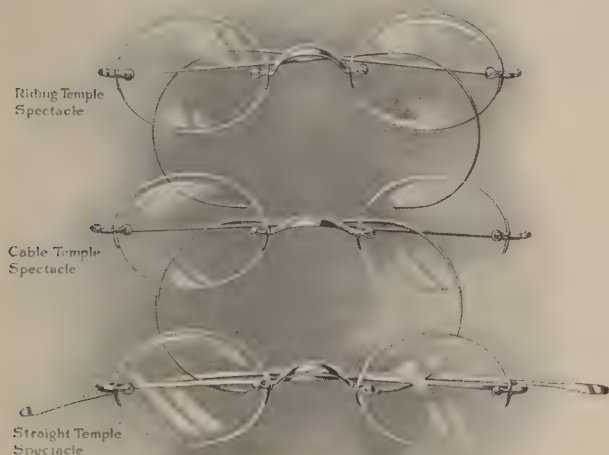
Popular White Gold Varsity Spectacles

At the same time it assays either 10K or 14K solid gold—we make both karat qualities.

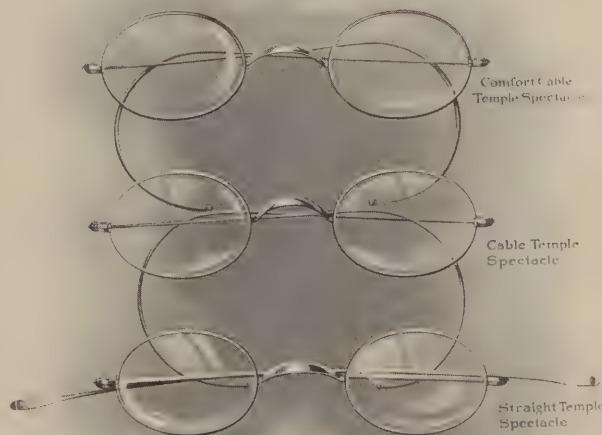
The temples, endpieces, bridges, springs, guards, eyewires—all parts in short—are of the best, careful AOCo solid gold make. Owing to the great demand we have decided for the present to restrict White Gold goods to the following lines and numbers:—Frames—718¼, 718½, 718¾, 728 cable, 728 cc; Rimless—in both KeeLocK and regular straps 798¼, 798½; Straight temple frames—721; Varsity spectacles—2163, 2167; Varsity eyeglasses—2712 (Mignon), 2712 regular; Finger-piece—03112 Fits-U Ovalax in KeeLocK and regular style straps. Made in 14K mostly; also 10K.

AMOPTICO records will show that we foretold the success of the Crookes lens. The KeeLocK we prophesied likewise, and now we make the conservative prophecy that the AOCo White Gold is one of the biggest high quality propositions the trade has seen in many a day. See, through your jobber, what you can do with it.

Rimless



Frames



When We Get Ready for a Flag Line Talk

THE sun shines in these windows whereof we speak. The sparrow of peace is on the window sill. Within are three inmates and all is pleasant. Humor is rife. Note: At least this was the way it looked when we were invited into this Vale of Contentment.

Why wouldn't a man think he was getting an invitation to an afternoon tea? But nay, neigh!

The chief mogul of the gold-filled sales held the opener. So he placed the burr in the traditional place and we sprang into action without any preliminaries.

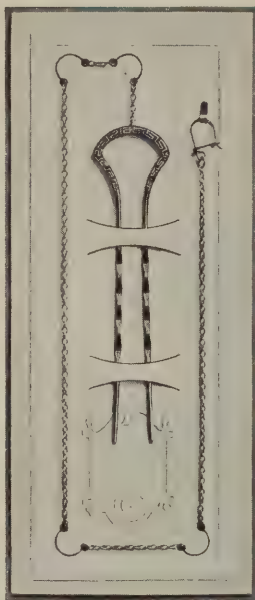
It seems that with all the thousands of AO items we carry on we'd forgotten his 1/10 12K Amoptico Flag Line. He opened with a straight flush.

"I think this is the prettiest gold-filled frame at the price on the market," he began. "Here! Look over those competitors' samples. Then look at the lower price we give. You can't beat that beautiful rounded-back endpiece anywhere. Notice the special finish, the careful smoothing around joints where a chance to skip is taken with poorly made filled lines. Try out the stiffness and the staunch, patched

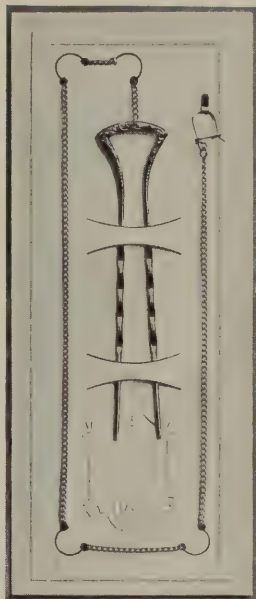
bridge. Nothing weak about that, is there? Compare the temples of the makes as they come out of the envelopes. See how stiff and unbent ours are.

"There's only one conclusion, isn't there? You've got to admit the Amoptico 1/10 12K Flag Line is a crackerjack for the high-class trade and prescription work." Then the sun set, the bird of peace winged off and the tea was over. Ask your jobber if this isn't a true story. He will tell you furthermore that this 1/10 12K Amoptico is one of the superlatively fine gold-filled propositions of the day.

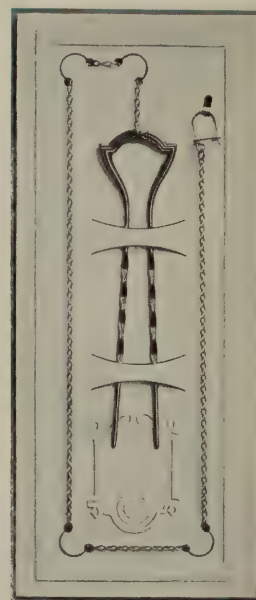
Taking a Shingle Off His Roof



No. H18. Smart Grecian design, conservative, simple and effective with splendid quality chain.



No. H19. Graceful Renaissance design, exquisite workmanship. A distinctive secure hairpin for ladies.



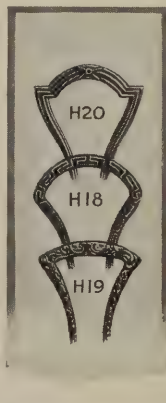
No. H20. Ancient Roman style, with long, flowing lines. Elegant and simple. An ornament and security in the hair.

IN Eastern United States they say the fitter often fails to recommend the purchase of eyeglass chains unless called for. He considers it a reflection on his fitting, a matter of pride.

In the West the fitter invariably adds, "And what kind of a chain are you going to have, madam?"

Isn't the former literally taking a shingle off his roof? Let us consider the needs and use of eyeglass chains and holders for a moment.

The lenses, mounting, and frame of today are better made, more valuable, more costly than they used to be. Protection against breakage is needed. The eyeglass chain and holder steps in to fill the want. The profit to each dealer is excellent. He realizes handsomely on each chain.



Detail of H18, 19 and 20 chains with these from 20 to 40 links to the inch; flat, curb or cable chains.

He supplies a necessity, which saves breakage. Why then should the chain be forced to sell itself?

Rather let us add a few shingles about hairpin and ear loop chains. We show here three new hairpin styles, H18, H19 and H20. A glance at the designs will show you how attractive they are and why they represent something distinctive. The H20 in particular has been a remarkable seller.

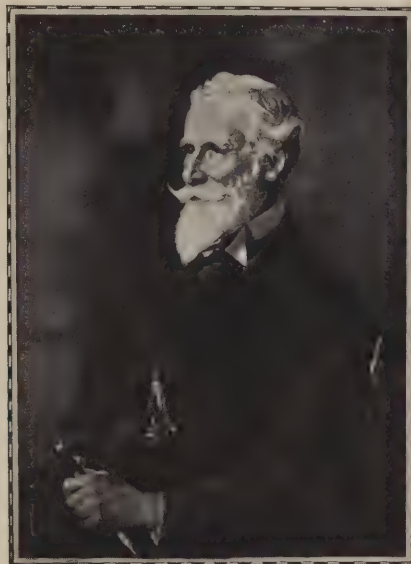
Not only this but these hairpins can be made up with any of our great variety of cable, curb or flat link chains.

The individual, machine-made link in 10K, 14K or 1/10 12K, 1/10 14K is kinkless, does not wear down to the base metal and carries a sparkling individuality, as your jobber will show you.





1915



1916

The First Crookes Anniversary

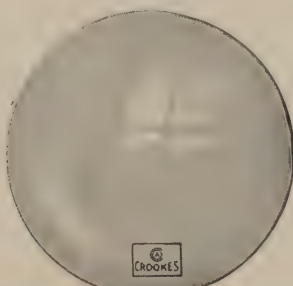
ONE year ago this month Sir William Crookes glass was introduced to the world's markets. By special exclusive arrangement, the AMERICAN OPTICAL COMPANY guaranteed to supply the needs of this vast territory.

Today, in a brief twelvemonth, Sir William Crookes glass has added a new chapter to optical history.

From the endorsement of a great name only, to the full approval of the optical profession within a year, is a unique and meteoric performance.

This success is based on a combination of remarkable qualities in a single lens; protection against ultra-violet and infra-red rays, invisibility, and clear, streakless crown glass capable of being made up in any bifocal,—these are its great merits.

We are supplying all countries, under our exclusive arrangement. Send to your jobber sample Crookes trial rings, etched at 25c the pair, A and B shades.



Reg. U.S. PAT. Off.



Two Speeds
Floor Space Required
2 ft. wide x 3 ft. deep

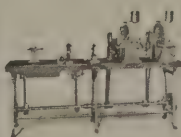
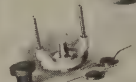
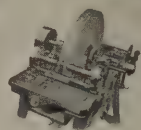
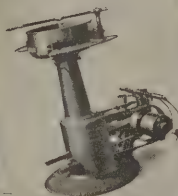
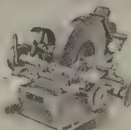
THE TIME KING

A rigid, smooth running, reliable machine is the time-saving element in lens grinding. Uniform, sustained operation is more to be desired than great speed followed by repairs and inaction.

This is the charm of the M24—it never falters. In the end you become attached to it like an old keepsake. It saves you time and money.

The M24 makes many bids for your favor. Send in the plans of your shop—we'll solve your equipment problems for you.

Price \$62.50



Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. IV

February 1916

No. 11



Fits-U Eyeglasses

*Always Becoming
and Secure*

LOOK FOR THIS MARK



ON THE BRIDGE

Entire Work Copyrighted, 1916, by the American Optical Company.

Hit Your Local Competition!



"I have solved the problem of local competition in a very simple way," said a dealer recently. "I have put the best into my shop, my goods and my service. While others are saving the pennies I am saving—insuring—my trade. One of the best ways I know of to buck local competition is to use AOCO Cases."

With our faith firmly pinned to a desire to serve the best interests of the optical trade we have never sacrificed the quality of AOCO Cases to satisfy a clamor for lower prices. That AOCO quality cases are appreciated was conclusively shown by

A Big Increase in AOCO Case Sales During 1915

That is the sort of endorsement that needs no argument or comment. Those whose support has increased AOCO Case sales have at the same time increased their own local prestige and good will.

AOCO Cases Win Out on 15 Counts

Some of the most important of these are: A vulcanizing process. The cases are covered absolutely uniformly by a special process without destroying the natural finish or grain. The adhesive used holds the leather tight to the steel form, excluding air and moisture and

preventing rust. The patented self-closing spring action, the graceful streamline contour of AOCO thin models, beautifully grained leathers, brilliant 23 Karat gold leaf lettering—these are your definite assets, Mr. Dealer, in hitting local competition.

Any jobber anywhere can show you these and other AOCO Case advantages.

Amoptico



The Remarkable Case of Fits-U versus Competition

Reasons Why The Higher Priced Mounting Can Withstand Persistent Lower Price Arguments

I had just graduated from the school that taught me the rudiments of spectacle optics. Before then I had decided to set up my own little shop when I graduated.

"One of the first questions therefore that touched my limited capital was what fingerpiece line to put in. So I chose the Fits-U, though it was higher priced, and I'll tell you why."

The author of these pointed remarks was an alert, aggressive young member of the optical profession. During his short two years in the business he had risen rapidly and enlarged his shop once. His practice was in a large town composed of the moderately well-off and a few of the wealthy. He says:

"In the first place I thought it wise to put in a Gold-Filled stock, among other things. The salesmen who came to see me from the various concerns offered me a hundred and one varieties of fingerpiece mountings, all with guaranteed Filled stock. But their price was one-half to three-fourths below the Fits-U and that made me suspicious. I'm not superstitious, but I believe there's something 'spooky' about the salesman who takes specific pains to point out a higher priced article and then proceeds to discount it and call his own just-as-good at one-half the price.

Where Price Gives Way to Quality

"SO when they began to measure their comparisons with the Fits-U I began to think. I reasoned it this way: If your Fits-U mounting wasn't better why did they keep measuring up theirs with it?

"That indicated to me that your Fits-U must be the standard in fingerpieces. Well, the upshot of it was I decided to give you people a chance to defend yourselves, so I wrote and asked point blank why one fingerpiece mounting is superior to another, and why you could get from one-half to three-fourths more for your Fits-U than these people asked.

"That was eighteen months ago and here's a letter received from your people then, that switched me to Fits-U goods. "Read it," he said, reaching into his desk and pulling out the letter:

"Dear Sir" it ran, "We are glad to have an opportunity to answer your esteemed letter and give you some ideas on the relative values of fingerpiece mountings.

"We fully appreciate the fact that it is now possible to buy them at considerably less than Fits-U prices. This has been brought about, as you know, by the keen competitive conditions of the business and the anxiety of manufacturers to cut corners in every way *regardless of whether the dealer and the public get a satisfactory article.*

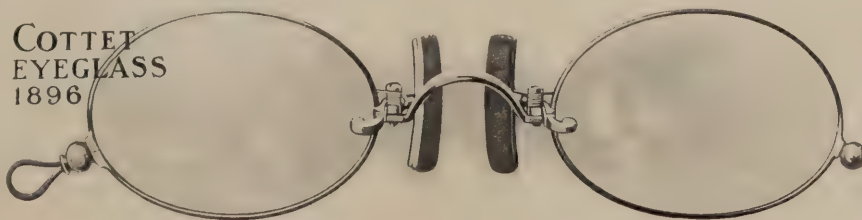
Makers of Custom-Made Gold-Filled

"The quality of the stock used in any mounting is only one of the elements of its real value. By far the greatest part of the expense of producing a good mounting is the element of labor; so that the difference between the cheap article and the Fits-U, where stock is of apparently the same quality, is one of workmanship. There are lots of ways to cut the cost and reduce the labor, without its apparently being seen by the casual buyer. There are certain special features on the Fits-U, such as the employment of the AO patented washer, that cannot be had on the cheaper goods. We are the only manufacturers who make their own gold-filled stock; we get uniform stiffness and color as a result and the best workmanship under exacting requirements. In short we are makers of custom-made gold-filled. Then there are other special features we have that are never seen on cheaper goods. There are manufacturing processes such as the use of special dies to draw the gold over the edges of the base metal; the electroplating again to make assurance doubly sure that the edges are protected, the various stiffening processes to ensure that the mounting shall hold its shape; the little niceties of adjustment and finish that can only be accounted for in additional labor, all of which are omitted to a large extent in the cheaper goods.

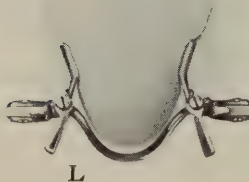
"In the case of the Fits-U one of the biggest advantages outside of those named is the fact that when the dealer buys the Fits-U he buys more than the Fits-U. He gets with it a market, the demand, if you will, which is worth real money to him. It means less selling

expense, less time to convince a customer that he is using the best mounting that can be made. It means the willingness of the manufacturer to use every possible means to help him to sell the goods; more frequent turn-

COTTET
EYEGLASS
1896



The First Fingerpiece Eyeglass, patent rights to which were acquired by the AOC.



The Old and the New Way

Fig. K. The New, showing the patented AO-ARM construction of the Fits-U eyeglass, and its great adjustability.

Fig. L. The ordinary type of fingerpiece eyeglass, showing the extremely limited scope of adjustment.

with the dealer. He has so many lines of goods to sell he cannot afford to give any one too much time; therefore, the standardized product such as the Fits-U is an easy product for him to handle. It turns a quick profit, and gives the salesman more opportunity to introduce other things; in other words, it helps to put over the bigger sales of the jobber at no increase in selling expense.

‘It may be of interest in this connection to say that the Fits-U is now as high, if not higher, in price than any other mounting on the market of the same quality. In spite of this apparent disadvantage Fits-U sales are mounting upward steadily month by month. The year just passed has rounded out the biggest Fits-U business we ever had; the prospects are very encouraging for more business in the years ahead. More Fits-U mountings have been sold than any other fingerpiece mounting that has ever been made. Fits-U’s sell in every civilized country of the world.

‘There is a reason behind all this. The Fits-U must be good value to produce business of that kind. The biggest jobbers in the country—those who a few years back were pushing their own specialties—are now using and pushing the Fits-U, having come to see the value of the Fits-U proposition.

‘We feel sure we can count you among our Fits-U enthusiasts and shall be glad to coöperate with you towards bigger Fits-U sales in your territory.’—American Optical Company.

“Well, sirs, that letter just finished me! I knew then where and when corners were cut in workmanship. I had not realized the absence of such features as the AO loop, Ovalex spring, Baker Washer, and Self-Centering features in these cheaper lines. As I learned later, the demand that made sales easier, with consequent saving in expenses and time of course, came from your advertising in magazines and the literature you helped the dealer with.

“Today, as I sit here, using your goods after two years, I still feel the same enthusiasm towards Fits-U

overs, better profits, better reputation for himself, and a satisfied list of customers.

‘Now the Fits-U is a better proposition for the jobber *because it sells easier* than any other fingerpiece mounting on the market. His salesman does not have to go along and argue and explain to the dealer. The dealer knows when he buys the Fits-U he is buying a safe mounting and is willing to pay a little extra for the margin of safety. Every jobber knows the value of a salesman’s time. A salesman can spend only one or two hours at the most on an average

lines. Very naturally, too, since they made me what I am today” said he smiling, and the interview ended.

“Stick-to-the-Cottet” a Policy

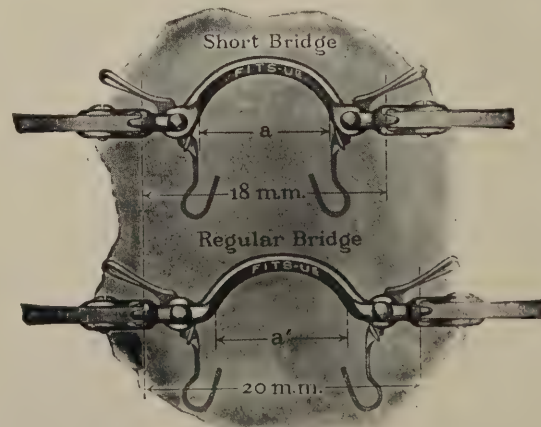
A careful study of the sound argument that won this dealer over to the Fits-U in the face of lower prices, emphasizes a still greater factor behind the whole Fits-U development.

There never was a business or government or project of any moment that hadn’t behind it a well-defined policy. It is absolutely essential to ultimate leadership and salvation, particularly with a new product.

So it was in the case of the Fits-U. When we took over the patent rights to the first fingerpiece mounting—the Cottet of 1896—a policy was then and there decided upon. First, it was decided that the Cottet type—the C bridge, with pivots at the bridge ends and levers and springs on pivots—should be perpetuated unless something better was invented, which was doubtful. Secondly, it should be kept as free from impractical attachments as possible. Nothing was to go into it that was not absolutely essential. The policy adopted said “Stick to Cottet Simplicity and Strength. Perpetuate the Cottet with only such refinements as are absolutely sound and essential.”

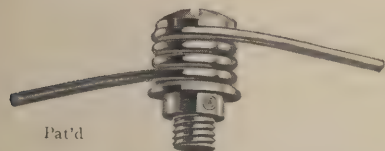
The Cottet Mechanically Ahead of its Time

THE sheer wisdom of such a policy has been demonstrated time and again. The first evidences of it came between 1896 and 1907. When general recognition of the merits of the fingerpiece type led practically the entire trade to see the possibilities in this new field they turned to the Cottet, with few exceptions. The Cottet thus began immediately to perpetuate itself. It was mechanically ahead of its time. The immediate result was that a vast number of private brands sprang up, under names chosen by individuals. All



Comparative distance in regular and short bridge (patented) having same base measurement

The Narrow P.D. First Introduced by the AOCO.



Combination Coil Springs, Screws and Washer

distribution, yet there were few mountings with nationally known names. The demand was purely local, confined as a general rule to the immediate field developed by its sponsor.

The Great Expansion Years of 1907-8

THE years 1907-8 were the most important in the fingerpiece world. The Cottet patents, held by the American Optical Company up to that time, expired. Forthwith there was a universal rush to adopt this type. The fingerpiece business took on a tremendous impetus. A second great demonstration of the value of this type had been given by this spontaneous approval. The Cottet had perpetuated itself for all time. Practically every manufacturer then as today sold Cottet type fingerpieces only.

The Evolution of the Fits-U

WITH 1908 came the Fits-U and the era of national distribution. The Fits-U was the Cottet brought up to date with refinements, of which we shall speak later. It inherited the wide experience of this company in manufacturing fingerpiece eyeglasses. It carried the merits of a consistent policy, and here opens the second chapter of this policy on Sticking to Simplicity.

With the great expansion period of 1908 and its universal adoption of the Cottet type came two phases of production—one legal, one commercial. A determined rush was made to patent new attachments, new guards, pads, bridges, springs, etc., until today there are several hundred patents in the U. S. Patent Office at Washington which, with comparatively few exceptions, never have been or are likely to be used. The percentage of meritorious devices that survived is remarkably small—less than 10%. Commercially, there was likewise a great rush to load up the Cottet with these impractical attachments, some patented, others not—fatal errors as we view them.

The Triumph of a Policy of "Essentials Only"

BUT the triumph of the Fits-U policy which has become daily more evident, is its avoidance of these pitfalls. Simplicity, the paramount consideration, has dictated "refinements of the Cottet in essentials only."

Today, the Fits-U, contrasted with the undeveloped

the mountings were of the Cottet type. So, previous to 1907, while the Cottet as a type had a national

Cottet of twenty or even ten years ago, is a marvel of beautiful Style, Strength and Simplicity. The refinements on the Cottet at each step in fingerpiece progress have never been so clearly outlined as by the successive perfection of the AO Loop, the Baker Washer, the Narrow P. D., the Ovalex Spring and now the Self-Centering principle. Each of these refinements on the Cottet has been confined to the simplest essentials. The AO loop, with its wide range of adjustability, has been the greatest invention the fingerpiece industry has known. The Baker washer has been of infinite value in saving parts and keeping the mounting rigid. The narrow P.D., originated and first announced by this company, when applied to the Fits-U set the standard that has been a constant subject of study and imitation ever since. The strength, durability and easy adjustment of the Ovalex Spring, and the automatic Self-Centering principle of the newest 03131 Fits-U add two more essential refinements to the original Cottet.

The Jobber and Dealer of the Future

When the dealer has any doubts about relative values of fingerpiece mountings in the future he will stop to reflect that a well-defined policy has preserved the Fits-U from the mistakes of others. He will doubtless conclude, as did our young dealer friend, that custom-made stock, workmanship, refinements in essentials, quick turnovers, profits and steady demand are the great combined features—many of them to be found in no other mounting—that predominate in the Fits-U.



The World Famous Ovalex (Patented)—Adjustable at Guard
"One of the Great Eyeglass Inventions of all Time"



The Newest Fits-U—03131

"The Quest for a Self-Centering Type Ended When This Appeared"

Those who realize that the world's annual fingerpiece business, without lenses, amounts to millions of dollars yearly need not stop to ask how important it is to ask the jobber for the mounting of Style, Strength and Simplicity—the Fits-U.

Travelling Experiences with Sir William Crookes Lenses

ENTITLED "Roughing it in a Pullman Smoker." Subject: Crookes ad, true story. Dramatis Personæ, etc:—Six travelers surrounded by fifty inches of sofa, two well-cindered windows, one cuspidor, two armchairs and regular Pullman "London Fog" smoke.

The voluble discourse of a Wall St. reporter was puncturing the atmosphere with "Call Money" "Long Term Notes" and such market talk. A rapt group were listening and arguing back and forth. One was obviously a devotee of financial socialism. The rest kept one ear open and tongues tied in, except our friend the shoe retailer. He was the one who discovered us when we casually pulled out a pair of Sir William Crookes Lenses. Bang went the shop talk! "What've you got there? Look like Crookes lenses," he exploded, as if he'd met an old friend.

It took me by surprise, for the layman, let alone the expert, has difficulty in telling the Crookes from a white lens. "Yes! How'd you know?"

"I wear Crookes myself," he said; "they're the greatest lenses I've ever had. My optician in S— told me to wear 'em and let me tell you gentlemen I never got such relief in my life from glasses. Why, my eyes used to bother me so when I came out of the house mornings, I had to shield them from the sun. With the Crookes I can walk straight out into the snow and sun without a qualm. Costs me two or three dollars more than the regular lens, but I should worry when my eyes are O.K."

For a spontaneous and sincere tribute from a stranger this cannot be excelled. Doubtless someone else has run upon a similar coincidence in his daily experience. We have learned many things in a year.

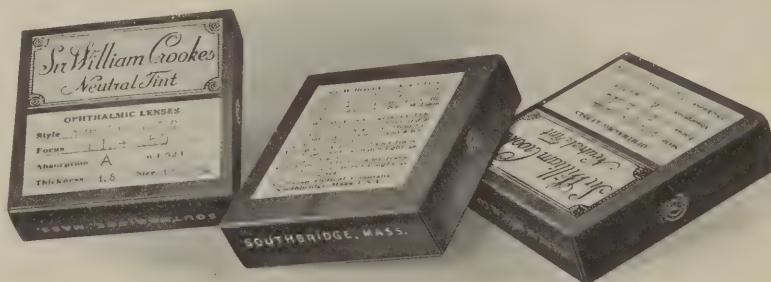
The discussion then turned about the merits of the new Sir William Crookes lens, what it was, how it worked, and so on. Here's what we knew.

One year ago the Sir William Crookes lens was introduced to the American trade. After cautious inspection and trial the merits of the lens began to assert themselves and the beginning of the summer saw the sales mounting rapidly.

Our success with this lens was based on an early belief in its unique qualities combined for effectiveness. Its invisibility, we saw immediately, would place it far ahead of its predecessors if, at the same time, it possessed the ability to cut out ultra-violet and most of the heat rays, to let through a maximum of visible light, and could be made commercially available. It is also made in Ultex Onepiece and Kryptok Bifocals.

These conditions the Crookes lens has fulfilled, running even in color, free from streaks, scratches and bubbles, and arousing the universal enthusiasm of the patients who have tried it. Thousands at this writing are reciting similar experiences of comfort and satisfaction. So that in the light of these facts we believe today that Sir William Crookes tinted lens is one of the truly great optical developments of the past decade. Imitations are bound to spring up and we call attention to the fact that the genuine Sir William

Crookes lenses bear the name *only* with a sticker with the same name on each lens and our AOCo trade mark etched on all factory finished lenses. Into rough blanks the title "Sir William Crookes Glass," together with our trade mark is moulded. Send for sample



trial rings etched with Sir William Crookes and the AOCo trade mark in A & B shades at 25 cents the pair.

We urge nothing on you; if you are skeptical all we ask of you is to try it and judge by results. There is a handsome profit in it for you and it has sheer merit else it would not have topped the entire list of colored lens sales in 1915.

KeeLock Reduction and Advertising

Increased Sales Reduce Price on
Slotting Machines

PEOPLE say advertising adds to the cost of a product. The Sales Manager knows it doesn't and here's a concrete instance: Behind the KeeLock cement mounting from May, 1915, to the present we've put the punch of a complete advertising campaign—ads, slides, folders, blotters and window displays.

The KeeLock was a difficult proposition to sell, for unsuccessful screwless types, trade prejudice and indifference meant an unwelcome reception to any new cement proposition.

Today advertising has convinced the trade so clearly of its merits

that sales have jumped up the country over. Section by section skepticism has been overcome by inquiry, experiment and enthusiasm in this country. The profits to the dealer were always there but the merits of KeeLock were what our advertising matter had to bring home to him.

So today our greatly increased volume of sales enables us to reduce the price on KeeLock Slotting machines \$5.00 each. Our number M88b, belt driven, is reduced from \$20.00 to \$15.00 each; the M89m, motor driven, is reduced from \$25.00 to \$20.00. It is well to remember that a KeeLock slotting machine (pats. pend.) takes the place of, and costs *less* than a good drill—and you have less breakage in the shop. Take advantage of this opportunity. KeeLock advertising has paid dividends with our dealers.

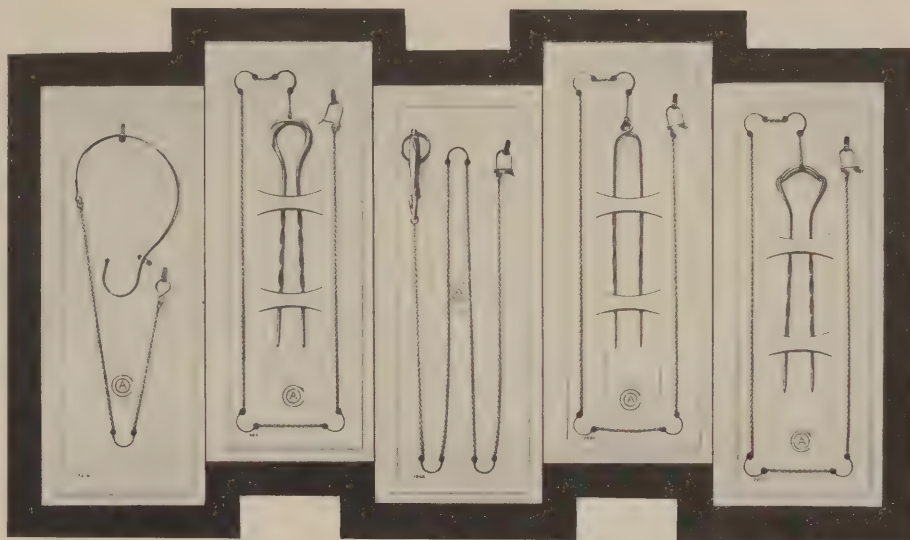
Chain Talks and So Does Al Hughes, About Selection

WHEN you get to talking chains with "Al" Hughes put a time limit on him or keep a hook in the wings the way they do with all public performers and after-breakfast speakers. He'll sell you chains anyway no matter how short you tie him, and the longer you listen the more chains you'll buy. Al had just about decided to sell this great and glorious factory to us one pay day when someone stepped in, fortunately enough for our \$3.14.

But here's what he said on Selection in one of his Five Minute Chain Talks. "You've heard much talk about fine links and coarse links, and soldering and so on.

A good deal of it is splitting hairs, for there are a good many pinhead advantages claimed for one chain over another by manufacturers in the efforts to get the business. If the flat truth be known, the actual manufacture of chains runs fairly uniform throughout the trade.

"Now let me tell you something. Careful selection and elimination of imperfectly soldered or finished chains is where one manufacturer surpasses another. So where the actual benefit to the trade and public comes is first, last and always in the selection of the chain. If you slight this most important part your customer's customer will back-fire with a broken chain, which means dissatisfaction. Selection is so often the



No. 360-14

No. 360-HH8

No. 360-O

No. 360-H

No. 360H20

weak link. It is not the slightest bit over-exaggerated to say that our examination of chains would be considered by any but ourselves far more severe than is necessary. We give them a very rigid inspection and apply an acid test 15% stronger than is normally necessary. As a result our rejections annually amount to a considerable percentage. It's not difficult you know, to find flaws in so delicate a piece of work as a 40-link-to-the-inch chain.

"When you get an AOCo chain you get a finely selected article and there's no come back on it. Next month we'll give you a talk on some other phase of chain manufacture. Don't forget! AOCo Chains Talk! Ask any jobber; he will bear us out."

A Snappy Story About White Gold

HE'S more to be pitied than censured" vocalized a local sage about Pitt Herbert when he discovered WHITE GOLD. Today the



(Patented July 16, 1912. Other Pats. Pend.)

The KeeLocK Fits-U in White Gold

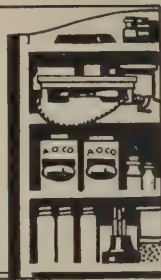
boot's on the other foot and Pitt's propelling it with great glee. The reason for such mirth is the splendid success that upset the wiseacres.

But here's an interesting study in values, to wit: One of our salesmen reports that the dealers in his cities are using the 14K quality exclusively. He says that the people who handle this very exclusive, high quality line of goods know they can sell the 14K, get better profits, turn over their stock just as quickly as with the 10K, and give the utmost satisfaction to their customers at one and the same time. We make White Solid Gold in both 14K and 10K. We offer the 14K in preference to the 10K because the public that will buy 10K will buy 14K just as quickly; and 14K carries a better quality throughout and gives more lasting satisfaction, and you make an excellent profit on it.

The interesting moral is that a shrewd house, handling any line of optical goods can sell the best, with a little salesmanship, as well as the cheapest or near-best. Order White Gold from your jobber in all regular styles. Try it with a KeeLocK Fits-U.



Practical Talks with the Shopman



EDITOR'S NOTE: These articles comprise a series of five Talks on Surface Grinding and Polishing by R. L. Gordon of our Optical Equipment Division. The subject will include interesting and instructive articles each month on: 1. The Nature of Optical Glass; 2. The Materials used in Grinding and Polishing. 3. The Machinery and Tools Needed for Surface Grinding and Polishing, together with notes on the proper care of the same; 4. Methods used in Grinding and Why; 5. Methods of Grinding Special Lenses, such as Kryptoks and Ullex One-piece Bifocals.

III. Machinery and Tools Needed for Surface Grinding and Polishing (*Continued*)

ALL of the machines described so far are used for grinding spherical lenses. The tools used with them are grinding laps shown in figure 5. These are of two kinds, convex for grinding concave spherical lenses, and concave for grinding convex spherical lenses. A different tool must be used for each focus of lens which it is desired to make, and the grinding surface of each tool is a section of a sphere, the radius of curvature of which is determined by the dioptre of the lens and the index of refraction of the glass to be ground.

This index of refraction is a number which indicates the comparative value which any substance has of bending or refracting a ray of light. The greater the index, the greater is the magnifying power of a lens of a given curvature. It is this property which is taken advantage of in the making of the well-known Kryptok or fused bifocal lens, and which will be explained in detail in a later article.

Two Indices of Refraction in Spectacle Lenses

IN spectacle lenses there are two well-known indices of refraction regularly used, namely, $n1.507$ and $n1.523$. Of two lenses made with the same curve of tool, the one made of $n1.523$ glass would be the

in the grinding process they are bound to wear out of shape. Everyone who pretends to do anything like accurate work must necessarily provide himself with gauges (See figure 5) to test the curves in keeping the shape of these tools accurate.

Detecting Errors in Tool Curvature

BY holding the gauge on the surface of the tool and looking between, any error in curve is easily detected. To overcome this a special carborundum block No. M45 (see figure 6) is pressed against the tool (while running) on that portion of the surface which is too high, and the excess metal ground off. Holes are provided in these blocks so that they may be held by the pin in the handle of the surfacing machine, and thus a greater pressure may be applied than if the block were held in the hands.

After the proper tool has been secured and tested by gauging, and placed on the revolving spindle of the surfacing machine, means must be provided for holding the lens against the revolving tool. This is done by securing the glass blank to a cast iron block, by means of a special pitch. This block has a shallow pin hole on the side opposite to the lens, into which the pointed pin in the handle of the surfacing machine is engaged. The outer edge of the revolving tool travelling at a considerably faster speed than the central part of the tool causes the lens to revolve on this center, by which it is held, in a direction the same as that of the tool. At the same time the handle should be slowly turned towards and away from the center of the tool (never across the center).

These various motions are so complex as to break up any tendency for the emery or rouge introduced between the glass and the tool to grind streaks or parallel scratches in the glass, as is done when metal is held against an ordinary grinding wheel. The surface produced is of rather a matted appearance, somewhat like that of an eggshell.

For Grinding Cylinders

FOR grinding cylinders it is at once apparent that an entirely different method must be pursued. It is not so long ago that many men whose hair has not yet turned gray, can recollect when cylinder lenses were ground by pushing the lens by hand back and forth over a section of brass tubing of the proper curvature. The axis of the cylinder must not be twisted, or the lens produced would be of different curvature than the tool on which it was ground. It is natural that many machines were designed to reproduce the hand motion. On some the lens was moved back and forth in one



Fig. 5. Convex Grinding Lap and Gauge

stronger. A lens of 1.507 index ground on a tool made for grinding a 6 dioptre lens of 1.523 index, would really have a power of approximately 6.25 dioptres.

The process of grinding naturally wears down these cast iron tools, and unless extraordinary care is used

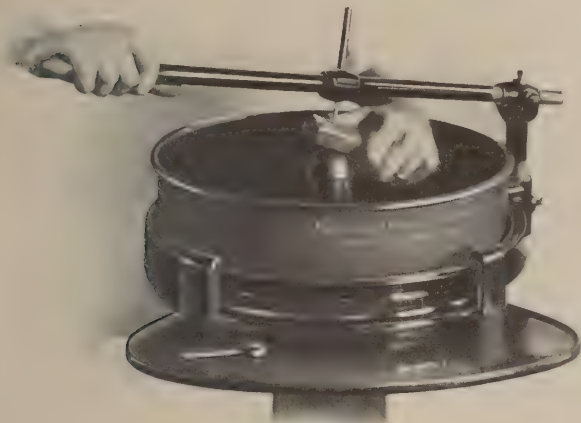


Fig. 6 Showing Carborundum Block M45 Truing Up the Lap

line of motion, while at the same time the tool was forced back and forth in a direction at right angles to it. In others the tool was held stationary while the lens was pushed back and forth and sidewise at one and the same time.

Hand Grinding Applied to Machinery

THE late George W. Wells, founder of the American Optical Company in 1903, invented and perfected the M-30 attachment shown in figure 7 for doing this kind of work on a regular spherical machine. The lens was attached to the regular iron block with its center as before, but having two arms extending on each side in line with the axis of the cylinder, which it was proposed to grind. On the attachment are two pairs of swinging forks, on either side of the cylinder tool, and into these forks the arms on the blocks engage. The lens is, therefore, kept always in line with the axis on the cylinder tool. With the pin in the handle engaging the center of the block and the tool revolving on the spindle, the grinding action is very similar to swinging the lens in a circle by hand about the center of the tool keeping its axis always in line with the axis of the tool. By moving the handle in and out towards the center the motion is broken up so much that the surface is left matted and not streaked as would otherwise be the case. This motion is very much to be preferred, as the lenses produced are free from waves and aberrations produced by the other motions described, caused by the lens not following closely the curve or contour of the tools but jumping away from contact with them. This device is the most rapid producer of cylinder lenses made. It requires the constant attention of one man to operate it and he must have considerable skill.

The Machines With Human Skill

THE machines shown in figure 8 and known as the M28 Toric machines are developments of this attachment.* The lower part of the machine is essentially the same as the cylinder attachment except that it revolves at a much slower rate than can be

allowed in that device. Instead of a pin held in the handle engaging in the block, the pin is fastened to a small crank which is turned at a fairly rapid rate by the upper spindle of the machine. This produces a motion as shown in the Fig. 9 cut, namely, a series of rotary circular turns.

The lens is driven by power, the only attention necessary being the application of the abrasive, which can be applied while the machine is in motion. A special feature of this machine is its ability to grind very fine spherical surfaces as well as cylindrical surfaces in a very short length of time. There is no other machine on the market possessing such a wonderful, theoretically correct combination of motions and producing, as the M28 does, such scientifically accurate ophthalmic lenses.

Care of Your Machinery

BEFORE closing the subject of the tools used for grinding lenses, it should be stated that probably no other class of machinery is subject to such severe conditions, causing them to wear out rapidly. Emery and glass-grit around moving machine parts are about as good a combination as Pat, his pipe and the proverbial powder barrel. Care should be taken to remove emery and glass-grit to prevent destruction of property.

It would seem ridiculous, were it not such a common occurrence, to warn operators to keep the machines clean and well oiled. It is perhaps just as well not to oil at all as to pour the oil into a hole or opening already more or less stopped up with dirt and emery, as this simply washes the grit into the bearing, where the harm is done.

Shop Cleanliness a Paying Proposition

WHILE a white shirt and a linen suit is not the proper uniform for a surface operator, yet there is no need for the extraordinarily dirty appearance of so

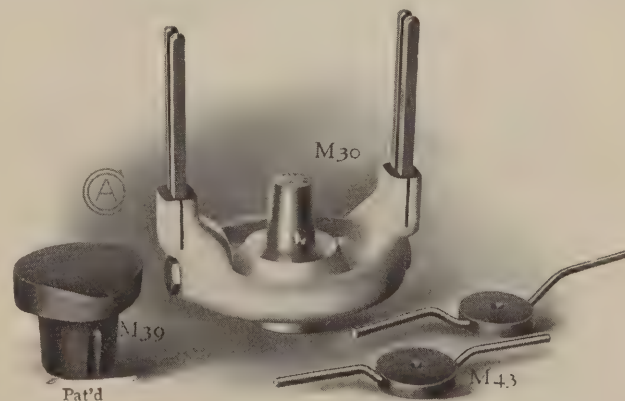


Fig. 7 M30 Toric Attachment With Supplementary Equipment

many surfacing departments. When it is considered that a work of scientific precision—which is what the ordinary Rx lens of today really is—is done in these prescription departments, it follows that this department should be kept looking more like a laboratory than like a junk shop. Beside the natural pride that should be taken in making the surfacing department

clean and orderly, it will be found to be a very paying proposition to keep out dirt and grit.

Whenever a new piece of machinery of any kind is purchased it should be carefully cleaned from the dust and dirt accumulated in transportation, all bearings should be carefully examined, the oil holes located, and a good quality of machine oil introduced at all wearing points.

Proper Placing of Machinery

THE machine should be so placed that all horizontal shafts are setting perfectly level before bolting or screwing the machine down into position. This is quite important and should be carefully done. It affects the running quality of the machine as well as its lasting quality. Before screwing down it should be noted whether or not the machine is resting on the floor or bench top or points directly in line with the bolts or screws. For instance, if you are setting up a bench it is very essential to know that the foot of the bench legs is resting firmly on the floor. It is very often necessary to put wedges of wood underneath these bench legs,

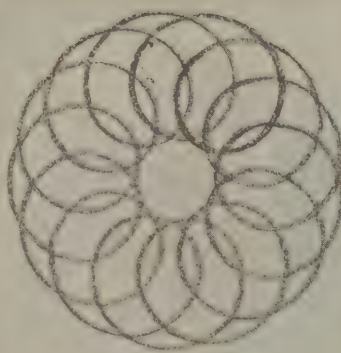


Fig. 9 Rotary Motion of M28 Toric Machine
Reproduction of Actual Motion

as floors are often uneven. If this is not done the screwing down of the bolts is more than likely to strain the entire piece of machinery and cause the bearings to bind and heat.

After the machine has been carefully placed and bolted down, the power can be applied. The machine should be allowed to run idle without doing work of any kind for a few hours, to determine whether or not the bearings are being properly lubricated. These should be examined from time to time, very frequently at first, to see that they are not heating up.

What to Do in Case Hot Bearing Develops

IF a hot bearing develops, it is probable that dirt has gotten inside of the bearings during transportation and the shaft should be removed from its bearing and carefully cleaned out. At the same time the oil hole should be carefully cleaned, as it sometimes happens that paint gets into these holes and clogs them up and thus prevents the oil from doing its work properly. After the machine has run several hours without heating it should be in good condition to operate without any further attention except that a new machine should be oiled very frequently until the bearings have become glazed. All machinery should be oiled at least once a day, and the best time to do this is the first thing in the morning before starting up.

Our next article IV will describe the method used in grinding and polishing a lens.

* AMERICAN OPTICAL CO.,
Southbridge, Mass.

Dec. 1, 1915, N. Y. City.

Attention of Mr. Bugbee.

Dear Sir:—The machinery, which you have just installed for me, has proven so entirely satisfactory, that I thought it would please you to know how thoroughly satisfied I am.

I had occasion to go into my shop this morning, and one of my surface grinders called my attention to the fact that in a day and a half he had ground 27 pairs of toric cylinders, all perfectly ground to the edge, which enables me to cut very large sizes. He also showed me how this machine (AOCO. No. M28 Toric Machine) ground 1 cylinder toric surface in 18 minutes, 2 pairs of cylinder toric surfaces in 31 minutes, and a plus 5.00 dioptre cylinder, and a plus 3.50 dioptre cylinder at the same time, in 22 minutes, all absolutely perfect, in every detail.

You are certainly to be congratulated upon turning out a machine, that gives such perfect satisfaction to one as particular as I am. Very truly yours, B. M. Levoy.

One Thing We Haven't Done Yet—

IS to get out Motorglasses for Ford cars! We have Amoptiscopes for that! But we have just pulled a brand new 24-page Motorglass, Protection and Amoptiscope catalogue hot off the press. First come, first served! Buy now in February, March and April.

So here's the opener for your Spring campaign—24 pages of Motor and Protection glasses. Five unique styles never equalled or approached are announced for the first time. Your profits high, prices fair and everything set—including stock and service—to give you the jump on your forgetful neighbor.

Our Motorglass Catalog will be sent you promptly. A beautiful compilation of old and new styles—the Who's Who in Motorglasses. Remember! Five new unique styles—world beaters all. See page 248.



Pat'd & Pats. Pend.

Fig. 8 Battery of M28's in B. M. Levoy's, New York

Surgeon's Thirty-One Years in Far East Optics at Peking

SPREAD upon the records of our Foreign Department in charge of Managing Director, Clyde G. Hilton are these words:

"Nov. 4, 1915—Dr. Nehemiah S. Hopkins, head of the Methodist Hospital in Peking, China, here today. A man of unquestionably fine character and splendid record. Went out to China in 1885 where he has been a general practitioner and ophthalmic surgeon. Since 1911 has specialized in ophthalmic surgery and eye diseases. For years has been in charge of the Methodist Hospital optical department which, under him, has grown to a retail and wholesale optical business of considerable size, now occupying a several story modern building of its own, employing ten or twelve shopmen besides clerks."

This is a brief, but illuminating, sketch of the man who has built up the largest optical department in Northern and Central China and has for many years been a most influential figure in far eastern affairs.



All Skilled in the Most Complicated Lens Work

After thirty years' pioneering among a foreign people the man we met carried not the slightest vestige of oriental dress, manners or habits of speech. The quiet strength of bearing and refined, pleasant-voiced manner, which we like to think of as a typical American, was his. Of most compelling stature and strongly modeled head and features he struck us forcibly as one who possessed that inspiring mixture of deep-read, human understanding with signal ability and judgment.

The optical establishment he has built up among the Chinese is an imposing building on the hospital grounds in Peking. Lately finished, its two stories include the latest, most modern optical equipment. The help employed is practically all Chinese, which will have to be increased now that the optical building has been completed.

The Chinese, says Dr. Hopkins, is an extremely accurate, careful and neat workman. He is constitutionally a great imitator, develops rapidly and nowadays is able to turn out the most complicated prescrip-

tions. Work done in the modern Chinese shop is said to be very nearly the equal of American shop work.

In one of the illustrations shown here the spic-and-span condition of the average Chinese optical shop is well illustrated. The walls are whitewashed, benches kept clean, particularly to prevent dirt and emery from getting in the machine bearings, and the floor is constantly swept. The workman in the left foreground is operating a three spindle AOC_o M21b2 surfacing bench. At the extreme right are shown an AOC_o drill and cutter and two fine M72 edgers such as big prescription shops use. Tools of AOC_o make are neatly racked on the wall in the rear of the room.

Accustomed as we are, in our provincial way, to think of spectacle optics as a forte peculiarly our own, the development of Chinese skill in competition with us is somewhat unexpected. Though this large establishment owes its growth to the initiative and brains of an American who saw the need, yet the Chinese developed spectacles eons ago before America was known. And today, with the remarkable quarter-century spread of practical optics, they are running their own shops in many parts of China.



C. G. Hilton, Foreign Dept.

N. S. Hopkins, M.D.



A Shop Neat and Up-to-date in Equipment

The Chinese is a shrewd, honest and industrious business man. His ways are somewhat peculiar to the foreigner, but his ability is due to make him a factor in Far Eastern optics before long, and among the establishments he will model his work on will be a two-story optical building at the Methodist Hospital, Peking—the life's work of a fine-spirited, able American surgeon, Dr. Hopkins.

1.

Selection—Moulding

From the moment of arrival optical glass is subjected to severe tests. Our selection and rejection system is rigid. Optical glass to become a perfect lens must have a rugged constitution to begin with. Selection is the watchword! Moulding and Annealing tell a tale of careful control of temperatures. The blanks are tough, hard and ready to withstand stiff treatment.

2.

Grinding—Polishing

Grinding with the greatest and most efficient equipment of lens making machinery in the world cuts down breakage and defects. Special emery grading processes complete the saving. You get more in your lens when we make it. Our time is spent in refinements, not repairs. Polishing shows the hand of experience. The cleared surfaces of AOC_o rough torics make your loss from scratches and surface marks practically nil.

3.

Surface Inspection

Leaving no stone unturned. The lens just off the polishing blocks is rigidly examined for surface under special lighting conditions that accentuate any defect in the lens. No inspector is allowed to handle more than one lens at a time; this is to avoid "handling" or "abuse" scratches. One hundred keen-eyed inspectors pass inspection on many million lenses each year. They are experts on surface to a very high degree.

Axis Marking—Centering

Axis-Marking brand new electrically lighted instruments minimizes the error and assist in production. The three fingered pointers that register dots of ink for the cylinder axis are infallible. Centering and spherocylinders is done by similar machines. "Accuracy" is the motto here. Your worries of markings of lenses are settled for you. Our service runs high.

5.

Focusing

No known way of focusing is superior to the focusing-box, or light-and-target, method employed here. Together with the lens measure watch, the estimate of lens definition is gauged to a hair. As a result your lenses have a clear, sharp definition. It is most important that you buy lenses with these details settled for you. Our service runs high.

7.

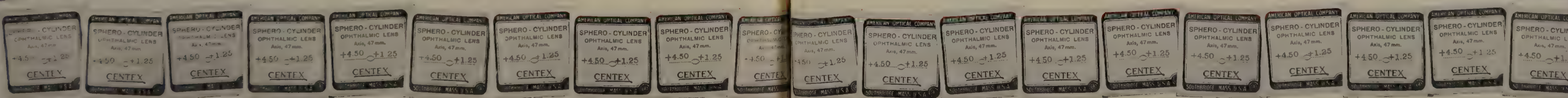
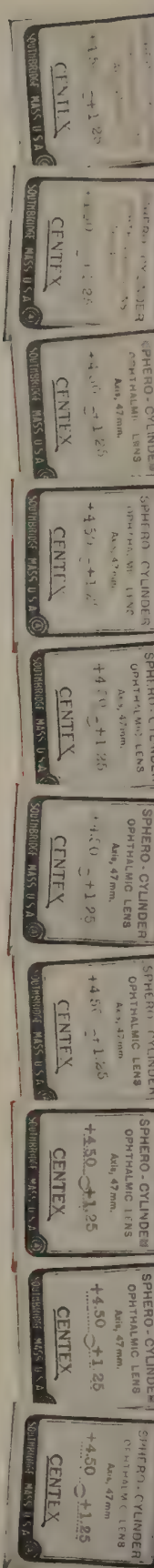
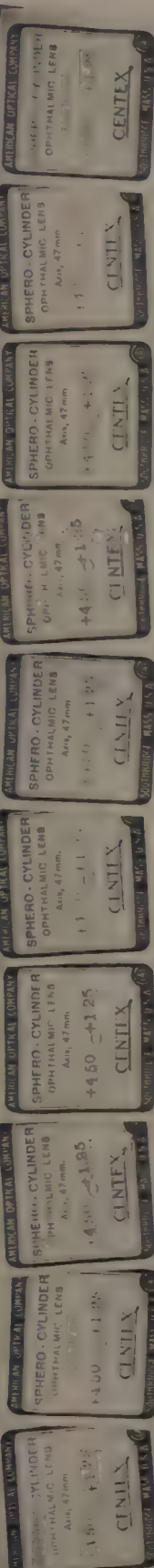
Service

We give service under the most liberal construction of the term. AOC_o service means the spirit of fair dealing, with our customers' business prestige ever in mind. An AOC_o lens never fulfills its task until it renders entire satisfaction to the consumer. This is the theory and practice that has sold millions of Primex and Centex lenses to dealers through our wholesale trade. Let us help build your prestige on AOC_o lenses.

6.

Thickness—Reinspection

Careful work is required in gauging for thickness lest "handling" scratches mar the lens. Skilled labor enables us to keep our Centex average high. Reinspection of all preceding processes for quality ends the long course of the lens. When it goes to you it has been inspected and reinspected, and packed with minute care for shipment. You get a lens that will "stand up" under severe conditions and serve its purpose—to give better eyesight. So we have the Primex and Centex highest quality lenses.





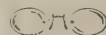
J. Albert Julia

Foreign Department Extension

IT is not many days since the American Optical Company acquired the foreign department of the Julius King Optical Company of New York. The entire export organization, stock and equipment were moved to Southbridge, whence the business is being carried on, on a vastly enlarged scale in conjunction with and as a part of the American Optical Company's Foreign department.

In charge as Manager of sales for Central and South American countries, in the AOCo Foreign Department, is J. Albert Julia, for sixteen years active head in New York of the King export organization. His familiarity with the requirements of Latin American customers makes him of invaluable assistance in extending still further the work of that division of our foreign department with which we have long been serving the same trade. With our extensive manufacturing facilities and the advantages of centralized

service the scope of the American Optical Company's Foreign Department will thus be greatly enlarged. A complete export catalogue is now in course of preparation and will be issued within a few months.



The Story of the Pill and Lens

PRENTICE once made the famous remark that "A lens is not a pill." Pills, however, have some characteristics in common with some lenses. That is, though they are "taken" the process is not always agreeable and the effect not always desirable. The busy buyer cannot possibly examine every lens personally. He must take his pills and unless he is willing to specify AOCo lenses and see that he gets them, the pills may be bitter.

The AOCo name and trade mark on a lens envelope means that there is a factor of safety in the lens it contains. It stands for standards, rigid and inflexible, established to protect the interests of the lens buyer. Incidentally this adherence to a definite idea in lens making has created a certain world-wide reputation for AOCo lenses. That is why AOCo lenses are used all over the world.



Keep Your Eye on the Basket

SOME fellow once wrote an old saw about the inadvisability of putting all your eggs into one basket. Mark Twain had the last word on the subject and in his inimitable way paraphrased it with the remark that you would do better to put 'em in one basket and *watch the basket*.

All of which leads up to the point we started out to make about concentration of effort in purchasing and selling and what it means to the man who buys optical goods.

The buyer who scatters his purchases frequently lives to regret it for he is unquestionably handicapping his selling efforts. "Watching too many baskets" is not a sound principle and the end of the year may show a startlingly high percentage of selling expense or an inventory of more or less unsalable merchandise—or both.

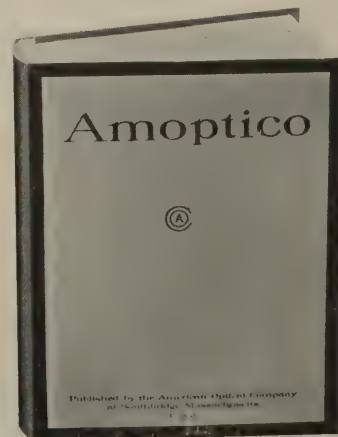
Some of the wisest buyers of optical goods have figured it out in dollars and sense. They now use AOCo goods exclusively.



Amoptico for Ready Reference

IF you have no binder in which to keep your Amopticos filed away neatly from month to month, this trim little red and gray binder is the very thing.

So many new and scientific subjects, new goods, perplexing questions, etc., are coming up nowadays that the Amoptico has become an invaluable reference book. Keep up your files with one of these binders, for 30 cents only and well worth the small labor of filing each month.



Amoptico

Reg. in U. S. Pat. Off.

Vol. IV February, 1916 No. 11

Published Monthly by
American Optical Company
1833-1916

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and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.

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L. W. Bugbee, Theoretical and Applied Optics
H. T. Reeve, ... Science and Research

EDITOR, George L. Treadwell

Amoptico To Be No More !

WITH the next issue the name "Amoptico" for this magazine passes out. Amoptico will henceforth be known as "Wellsworth," beginning with the April issue and the new Vol. V, No. 1.

We do not regret the passing of the old name, for it was a trick combination of the words—the AM-erican OPTIC-al CO-mpany—and born of the early days of advertising when trick spellings were in vogue and thought to be the essence of good advertising. It was hard to pronounce, carried no idea of our products, and even

failed to convey the company name satisfactorily.

Nowadays we know better. Advertising, today, is a logical process consisting of clear and searching analysis of trade marks, names or products and all conditions affecting them. So in selecting the new trade-marked name "Wellsworth" we thought it gracefully expressive of the part played by the late George W. Wells in the optical world and by his sons. Wherever optical goods are sold the name Wells is immediately familiar, thus carrying a priceless guarantee and the invaluable Good Will of those who've traded with us for generations. The "Worth," or quality, that has been so long our preachment and practice in the manufacture of optical goods is conveyed jointly in the new name Wellsworth.

Vale Amoptico! Prosit Wellsworth!



Employees Publish Town Paper

This month the 3000 employees of the American Optical Company begin publishing a new town paper. The new paper is called the Wellsworth Life, a twelve page 19 x 15 monthly newspaper, later to be a weekly.

Its professed object is "the general idea of promoting the best local interests" of Southbridge's 14,000 population.

So far as we know, this is the first time the employees of any company or corporation have ever published a town or city newspaper. It stands as a unique venture.

An organization has already been incorporated by the employees as "The Wellsworth Company." It will sell the paper for three cents a copy or 25 cents for a subscription to twelve numbers.

Public opinion in Southbridge is already lined up behind the new venture. Subscriptions and ads

have been pouring in to Circulation Manager F. M. Shields, of the Pricing Department, and to Advertising Managers, O. B. Carson and R. P. Spencer.

There is nothing to prevent our optical readers from sending in twenty-five cents in stamps for twelve numbers. Many of you have lived and formed close friendships here. It will tell you all about the latest doings in Southbridge, the home of the optical industry. It will tell about the live spirits that are building the seven acre AOC athletic field; you will hear about the new AOC brass band and orchestra, about the "big doings" of the AOC and other Southbridge local news. Personals, fraternal, club, town and all items will be covered thoroughly.

If you're interested in a LIVE sheet by a live organization of 3000 optical workers send in 25 cents for your twelve numbers. Subscription list is already 1500.



Convention Choice Well Made

No better place in our opinion than Providence, R. I., could have been picked for the coming convention of the American Optical Association in July.

Not only is Providence large and well equipped for the reception of a World's Congress but it offers a unique opportunity for the trade to visit the great optical manufacturing factories of Providence and Southbridge.

Manufacturers' and the A. O. Association committees are already coöperating to make this the most brilliant optical convention ever held. The man who misses this opportunity of getting into touch with his fellows and the latest in manufacturing methods and convention ideas will regret the pleasure he has lost. He must make his plans now. Take in Southbridge on your way.



Reducing and Spinning a Modern Cable Temple

Showing the Marvels of Machine Workmanship

Interchangeability the Great New Feature

THERE is, in our shop, about one man left of all the old-timers who could turn out a beautifully finished temple by hand without leaving a scar. He well remembers the time when temples were the result of tedious hand toil; when a piece of metal was "blanked out" to the proper length by a foot press, and this blank shaped, filed, smoothed, and bent to form by hand. Sheets of gold or steel were fed under the press and a thin square of metal just the length of a temple with a wider, flat tip was cut out. The piece was then seized by hand pliers, laid lengthwise on a wooden block and revolved by hand, a file being applied vigorously with the other hand. When the corners of the square had been removed and the temple was as smooth and round as the skill of the workman permitted, the pear tip had to be made by carefully hammering the flat metal into shape and filing where necessary.

Rapid-speeding industry was unable to endure the strain of such a process for long. Busy business-boosters cast about for a means of avoiding all this tedious hand work. The sight of so much good material being filed away and the knowledge that the cost of doing the work was holding prices on a needlessly high level were too much. So they set to work to pull the cost down.

Modern Machinery and "Swaging"

THE result was machinery, of course. It always is when large-scale production is needed badly enough. What is called the "swaging" process was introduced; a method by which wire is hammered into shape between dies without removing any material or cutting the surface of the stock. It is this process that has made it possible to produce gold-filled temples. The old method by which stock had to be filed down by hand did not permit making them. By

the new method a short sawed-off stub of wire, Fig. 1, is taken and forced between hammering dies until it is $6\frac{1}{2}$ inches long, as shown in Fig. 2, and greatly reduced in diameter. The beauty of it is that the shell of gold protecting the base metal is entirely uninjured and spreads itself in a perfectly even sheet over the temple without a break.

The "swaging" process has another result that might be expected. The future temple gets its temper up because of such terrific hammering, and becomes hard; in fact, it is given just the necessary hardness and springiness required. But, like all the rest of us, temples can stand only a certain amount of hammering, so great care must be taken not to overwork the metal. Each kind of metal has its own peculiar properties requiring different treatment; and we hope you will pardon us if we modestly remark that because we *do* make all our own stock (being the only optical manufacturers who do), and make so much of it, we are peculiarly fitted and able to make it more perfectly for optical purposes than anyone else. We adapt our alloys exactly to the strains and stresses they will be called upon to undergo. Quite naturally, *AOCO temples wear better than others*, which is no mere boast.

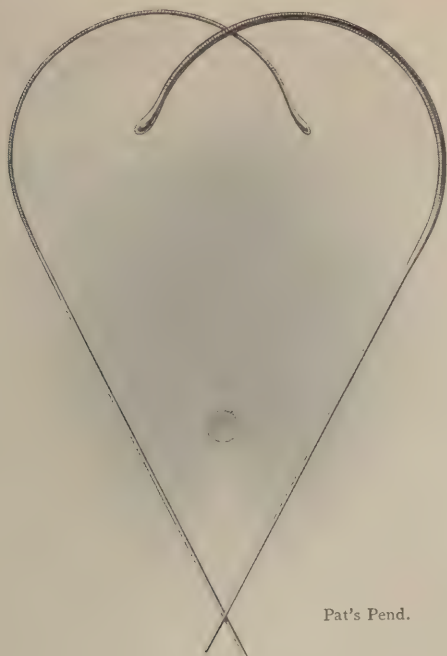
"Reducing" Our Specialty

THIS process is also used in making studs and other irregularly-shaped eyeglass parts. A special form of "reducing machine" is used in this work and in order to stand the extreme strain of forming these shapes a special metal alloy is used. More blushes of modesty here—the equipment of our stock department enables us to produce the various metal alloys needed to meet these special requirements. Working from the ground up, as we do, wonder not that they wear so well.

The most interesting process is the manufacture of



The Six Steps in Cable Temple Making



Perfex, the Modern, Pear Tip Temple

cable temples. Follow it through with us and see how the spinning process is done.

Watching the Golden Snake

GOLD-FILLED wire in a large coil, goes to a straightening machine where all its wiggles and twists are removed. Then it is carried to an automatic machine—one of the young “blacksmith shops” mentioned above—and is fed through rapidly revolving dies that strike it thousands of blows a minute, reducing it to a proper diameter. This, of course, stretches the wire, only one inch (Fig. 1) being required to make a six and one-half inch temple. The action of the machine then withdraws the wire, having enough of the original thickness of stock to form the joint of the temple later. This completes what is called the core. See Fig. 2.

While this is being done a whirling dervish of a machine is turning out cable springs. Several spools of very small diameter wire revolve with great rapidity around a central point in such a way that the wires are wound into a hollow spring. These springs (Fig. 3) after being cut to the required length are pushed on over the central core. (Fig. 4.)

Now the temples must go back again to the reduction machines and be carried through reducing dies as before, until the spring is hammered down perfectly smooth, giving the appearance of a solid wire. (Fig. 5.) Forming the joint comes next; done by a series of four hammering operations designed to form, trim, and pierce the necessary hole. (Fig. 6.) Special dies have

to be used in order to do the shaping work without destroying the gold covering.

Taking the Tip

THE temple must next be cut to length and the end prepared to receive the tip. Imagine a tiny gold cup, just large enough to fit the temple end, drawn up from a piece of sheet gold-filled stock, and you get some idea of what the cable temple ball tip really is. It is fitted over the end of the temple and rolled between dies to fasten it securely. When this process is complete it only remains to polish, true, and curl each temple.

The Perfex tip temples, the latest and most popular style of all, are made on automatic machines that smooth and shape the wire tip into its final pear-shaped end, with beautiful care and precision.

This is the work of infinite skill that machinery can do so much faster and finer than man’s slow, bungling hands. Spinning cable temples is truly a form of art.

All Gold-Filled Wire Temples to Have Perfex Tip

THE modern tip is the Perfex which, with this announcement, will now be supplied on *all* qualities of regular gold-filled *wire* temples for the first time. Previously, in Filled lines, Perfex tips could only be obtained regularly in 1/10 12K or better qualities, with the wire temple only. Gold-filled *cable* temples come only with the ball tip, while Filled *comfort cables* come with the smooth tip only. All solid gold temples in regular wire or cable or comfort cable styles have long been filled with Perfex tips.

Interchangeability a Great Feature

ONE remarkable advantage of AOCo gold and gold-filled lines is the interchangeability of temples. In our gold temples the same temple joint will fit all of the following numbers in gold:—718 $\frac{1}{8}$, 718, 718 $\frac{1}{4}$, 718 $\frac{1}{2}$, 718 $\frac{3}{4}$, 798 $\frac{1}{8}$, 798 $\frac{1}{4}$, 798 $\frac{1}{2}$, 799 $\frac{1}{8}$, 799 $\frac{1}{4}$, 799 $\frac{1}{2}$, 768 $\frac{1}{4}$, 768 $\frac{3}{4}$.

In gold-filled interchangeability the same temple joint will fit the Flag Line in:—2028; 2028C; 2028CC; 2068 and 2069. In the 14K Flag Line it will fit the following:—4018; 4018C; 4018CC; 4038; 4038C; 4068; 4069; also in cable and comfort cable in the same line. In the 1600 series the same temple fits:—1618; 1628; 1628 $\frac{1}{2}$; 1638; 1638 $\frac{1}{2}$; also the same in cable and comfort cable.

American Optical Company temples, with their careful, home-made construction, are the real reasons behind the tremendous demand for these unsurpassed examples of modern temple workmanship, finish and interchangeability. They wear for years, beyond the usual span of life oftentimes. Ask your jobber for these interchangeable temples.

Sound Advice from an Expert on

Cleveland, Ohio.

"Gentlemen:" We have a customer who is opening up a new store and is very much interested in the window display advertising in the Amoptico. Possibly you may be able to give us some help in the line of window displays and we would also want some advice as to a substantial and permanent background for optical windows. Will be grateful for any information along this line you can give us, together with any suggestions as to trimming and we will appreciate your prompt reply."—Jobber.



"At the Sign of the Fits-U"
No. 5W22 Free

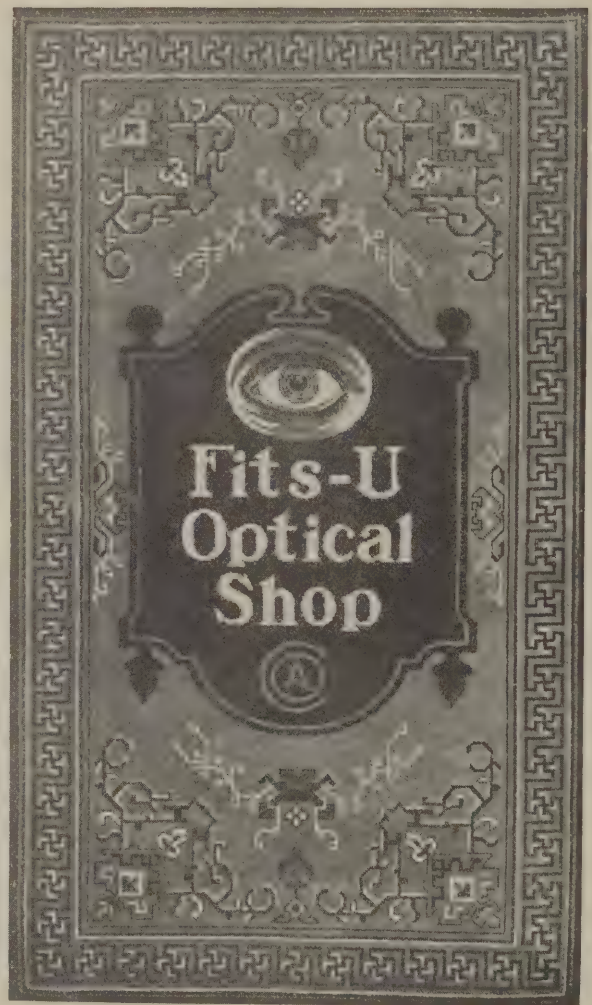
To which the following instructive reply was made:

AOCO. SOUTHBRIDGE.

ANSWER:—"We have your favor asking our advice with reference to the matter of window display, in behalf of one of your customers who is opening a new store.

"The last few issues of AMOPTICO give what we believe to be some very excellent suggestions along the line of attractive window trims, and if your customer will follow these ideas which we hope will be presented through AMOPTICO each month in the future, it is our opinion he will be able to gain quite a little help of a very practical, profitable nature.

"Window displays are more or less a matter of good taste, with the exception of the unusual forms of display which require considerable originality. In the case of the optician or optometrist who is conducting a small business and wishes to make his window attractive, and yet has not the necessary ideas or ability to express them in a graphic form in the window, it would be well for him to cultivate the



A DAILY MESSAGE UNDER FOOT

JUST inside the door of your shop, in front of the counter for fitting table lies the New Rug No. 5M6. The customer steps in, looks down, sees Fits-U Optical shop woven into a handsome oriental design rug, wipes his feet and sits down impressed with the attractive appointments of your shop. Little dirt shows where the feet were scraped; the rug still maintains its attractive blue, brown and ivory fast colors.

This rug is a long wearing, Wilton heavy quality weave. When the rainy days come it keeps the shop clean. It is always an advertisement of your shop, its local prestige and the care you take to offer the best to your patients.

Five feet three inches long, three feet wide, packed for shipment and good for years of service, this beautifully useful shop fixture costs only \$7.50 net. The reason why we are getting this at such a remarkably fair cost on large quantity shipments from a firm considered the leading domestic rug manufacturers of high priced rugs, is the reason why we're able to give you such quality at this low price. Order by No. 5M6 through your jobber. The quantity is limited. Get your order in early.



"The Sign with the Sparkling Eye"

THE Electric window sign automatically flashes your Toric message at brief intervals all night long. The brilliant blues, oranges, greens and blacks that show up so vividly at night are equally vivid by day. Can be seen at long distances whether lit or sober. Dealer's name imprinted free in one line, large black letters. Put in a lamp, attach the plug in the socket and it starts; no adjustment; 11½" x 18½", shipped complete—5 ft. cord, socket plugs, mechanism and all—for \$5.00 net, No. 10D2. State clearly how your name should be lettered.

How to Make Your Window Pay

friendship of some person who is making a business of this work; as, for instance, in the local department store; and by paying for assistance occasionally he can get great value provided the arrangement can be made. Window dressers in big cities very frequently will undertake special outside work of this kind and assist people in other lines of business for a nominal charge.

"Your customer also is advised to cultivate the habit of observing what other successful merchants are doing with their windows. Ideas in other lines of business can be very often applied to the optical business. When he sees a good effective window display have him take a snapshot of it or make a little rough sketch with necessary memoranda so as to be able to work out something of that kind himself. We are prone to overlook the fact that it is perfectly legitimate to appropriate to our own advantage ideas of people in other lines of business. As the art of window dressing has been developed much further and more profitably in other business, there is a lot to learn.

"As to a permanent background for optical windows, a good deal depends upon how much the merchant is able to spend for this purpose. Here, again, ideas can be obtained from other kinds of business, particularly the jewelry business. We very much favor the use of a panel background of wood with the upper part made in the form of leaded glass windows to let in the light, the whole being painted white or finished in mahogany, according to the general decorative plan of the store, as this lends the opportunity to obtain the most pleasing efforts in decoration.

"The background we used in the window shown from month to month in AMOPTICO is an illustration of this suggestion.

"If your customer will make a photograph of his store front and floor plan of his window and then write us about his decorative scheme and how far he is able to go in carrying out ideas, we shall be very glad to use our best efforts to make some additional suggestions."

O. B. CARSON,

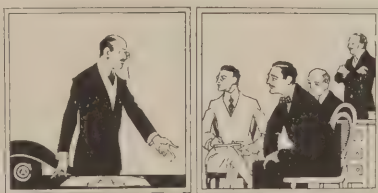
Advertising Manager.

A Set of Profit Makers



17D6

A SET of three movable, mahogany finished window display stands, ranging from about 5½ to 10 inches in height is just what you need to show off your goods. If you're aiming at a complete window you will find one or more of these sets versatile, handsome and valuable. The set No. 17D6 is sent anywhere for \$1.50 net.



Your Personal Appearance

Is a definite asset or liability, according as you impress your business or social acquaintances favorably or not.

Besides the keen, alert mind which sharp, clear vision will give you, the wearing of

"FITS-U" EYEGLASSES

will enhance your appearance and increase your personal prestige.

No matter what sort of glasses you now wear you will like Fits-U Eyeglasses a little better.

(Dealer's Name)

Newspaper Ad. No. 1-1



KRYPTOK INVISIBLE BIFOCAL LENSES

ONE WORD TO THE WISE
ABOUT EYESIGHT—
"KRYPTOK!"

It has a world of meaning for You
Comfort, Convenience
and Perfect Vision
Under All Conditions

"Kryptok" lenses do away with that two-glasses handicap of yours and put your eyes at ease. They let you read this type perfectly and then see out across the street just as perfectly without any conscious effort.

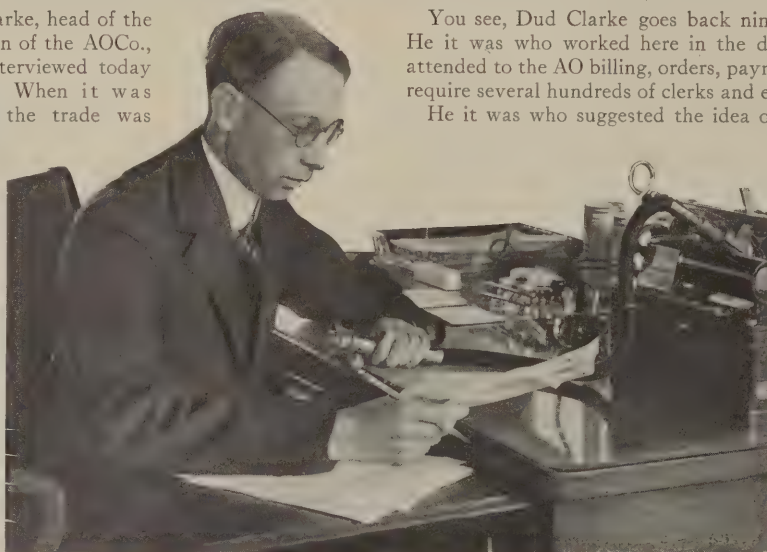
Come in some time this week and mention that you would like to try those "Kryptok" lenses and see how quickly and perfectly we will fit you out.

(Dealer's Name)

Newspaper Ad No. K-6.

The Man With a Priceless Reputation

DUDLEY Harvey Clarke, head of the Price List Division of the AOCo., consented to be interviewed today upon advice of friends. When it was represented to him that the trade was clamoring to see the man who'd been doing them damage all these years he shifted from one foot to 'tother and said, "I suppose there's many a price on my head." "Aha!" said assistant Frank, "and many a 'one in it," hoping thereby to get a 10 cent raise next payday. "You are a man with a priceless reputation, Dud," added a third; but just then, as Dud was shying between a desire to go into private life and a yearning for to meet the trade, Al Pease



Dudley H. Clarke, Price List Division

stepped in and caught Dud dictating to someone who couldn't kid back. So here you see him, running on one cylinder.

But despite office atmosphere, which breathes the very jokes Dud perpetrates, you find him always on the job cutting prices to the trade DOWN, DOWN, DOWN. They say other corporations have their memory phenomenons. So do we!

You see, Dud Clarke goes back nineteen years with this firm. He it was who worked here in the days of '96 when eight men attended to the AO billing, orders, payroll, costs and such, that now require several hundreds of clerks and executives.

He it was who suggested the idea of a pricing department and organized it distinct from the others, and if you will pardon this deplorable act—the one act in his career that arouses your ire and our sympathy—we will try to emphasize his good qualities and make him play fair with himself.

For instance, he's tall like Abraham Lincoln, has all his humor and dry wisdom but never split a rail or figured on a coal shovel in his life.

He is modest to a fault, shrewd and a hard worker and "the most

comical man in the plant," says the head of our foreign department.

And when we asked him what he would say about himself he said "Nothing." About the years he'd spent here? "Well," said he, "you can say nothing too good about the company for me" and he went back to his price cutting, giving "five for one," but always the hard-working "Man Behind the Dictaphone."

The Spirit Behind the Trade Mark

Birmingham, Alabama.

Gentlemen:—Yours of 12th inst. regarding lenses sent you the 27th received. We appreciate your very liberal action in exchanging the lenses.

We have a very high regard for AOCo. goods and this action strengthens our belief in the integrity of the AOCo.

Our Mr. Bohne remarked when your letter was received that his father, Mr. Wm. Bohne of New Orleans, had been using AOCo. goods since 1857 and had always told him that the AOCo. trade marks were synonymous with quality and honest dealing.

—J. H. STANTON.



Pat. July 16, 1912. Other Pat's Pend.

The KeeLocK Sharkgrip Mounting

Selling Like Wildfire

SOUNDS like a side-show barker trying to inveigle the crowd into a false-alarm show.

But our respect for veracity, otherwise known as Truth, prompts a candid statement that California is the scene of a great Sharkgrip sale. It is not one of those after-Christmas bargain sales either, for there seems to be and is real merit behind the Sharkskin Grip mounting. In fact, despite the additional cost of Sharkskin pads and Sharkgrip mountings the demand increases. Coming East we find a steady increase over a year ago in every section.

And now we have the Sharkgrip with the KeeLocK strap. One of the biggest houses on the Coast has taken up the KeeLocK for a thorough trial. The merits of the mounting are to be retested in the West—we have no fear of results. Try the Sharkgrip KeeLocK and see for yourself.



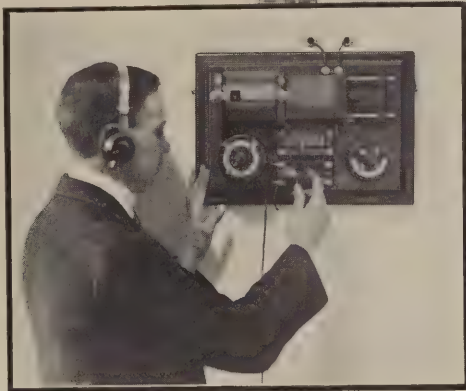
The Man on the Box

BIG Mike is the invaluable man who carries the weight of the AOCo on his massive shoulders. Equally adept at tossing heavy boxes all day or turning up a high rate of daily shipments, he sails the staunch ark "Arrow" till the cows come home. A day's work behind "Mike" means hustle. Lifting a few thousand pounds a day onto his new pet is the life for Mike.

Catching Spicy Sky Gossip on the Wing

THE old saying "A Little Bird Told Me" was what started Sig. Marconi on his still hunt after air secrets, they say. Today we have our own little wireless. As our prize local elocutionist hath it "Oh! great! Oh! Marvellous invenshun! I greet thee! Dear to my optical heart are the secrets of the ozone thou hast to tell. Thou art the Spirit of Invention, I the great spirit of the Listening Ear."

Which is all right as far as it goes, only Chief Electrician, W. E. Hayter, whom you see waiting for an S.O.S., is supposed to catch more than gossip. What



the birds tell him is beside the question. He is put here daily at noon and 10 P. M. to receive standard time from Arlington, Va., for the AOCo. What he can hear after that goes with the job.

Hayter's aërials, though you'd never know it to look at them, carry a receiving radius of 2000 miles. He used to get daily time by telegraph but he likes this better and he'll tell you why. "Between you and me" sez he, "I catch some pretty spicy gossip on the wing. Now a bird told me" and he expected us to swallow that. A monopoly like this ought to be prosecuted.

One of the Family Pets

GENTLEMEN, the 1915 Kryptok season is over. A fellow called Percentage stepped up and whispered that sales of AOCo Kryptoks had sprung up to umpty-ump, naming a pair of well-known numerals.

This pleased us as well as it must have pleased you folks, so we said "We'll have to give this man Percentage an increase in Labor." "Righto!" added the directors, so the Force was practically doubled and when we swung into 1916 a month ago we had a new foreman under us called Speed.

Speed has inaugurated a day-in, day-out service which means that regular Kryptok orders leave the same day they're received. And from branch offices regular Kryptok orders leave a matter of a few hours after receipt.

Now it has long been whispered that AOCo Kryptok get more attention than an Only Son. True! There's no one in our happy family we take such care of as Kryp; forced, ourselves, to earn our living by writing we know what a mistake it would be to spoil Kryp by letting him down easy. So we put this Favorite Son through a strenuous course of optical discipline where he is carefully ground, polished, and fused. And after he's inspected, washed and slicked up like a mirror ready to go out in company, the seasoned optical veterans fairly dote on him. AOCo Kryptok, the bifocal, is certainly a good sight for sore eyes.

By special Providence we are now able to announce for 1916 that, in the hereafter, there will be reserved a

special AOCo Kryptok room just inside St. Peter's gate for all those who can show receipts for AOCo Kryptoks. Now's your chance, boys, to settle the perplexing question of the Great Beyond for all time.

EXPERIMENT ON MONKEYS

ANIMALS BEING FITTED WITH GLASSES

BALTIMORE, Dec. 4.—Two monkeys at Johns Hopkins hospital are being fitted with eyeglasses, in an effort to discover a cure for various diseases in the human.

The glasses will entail a severe strain on the eyes, causing imperfect vision, and in other ways will confuse the recording nerves of the eyeball. The direct result expected is a serious reaction of the thyroid glands of the monkeys, with a consequent development of diseases found, in human beings, to have their origin in the thyroid gland.

Principal among these are goitre, nervousness, palpitation of the heart, protruding eyeballs and scrofula, a mild form of tubercular affection.

Investigations have revealed that the thyroid gland is responsive to optical disaffections. This gland is blamed generally for a multitude of troublesome and disfiguring diseases, and through the irritation expected to be produced in the monkeys, the various stages and manifestations of disease will be minutely studied, and a search started for a counter-irritant, or serum.—WORCESTER TELEGRAM.

Speaking of White Gold—

WHEN a man comes into your office with a pair of reading and a pair of distance spectacles and says "I can't tell one pair from the other," your cue is to suggest WHITE GOLD for one pair and regular gold for the other.



Boosting Ultex Onepiece Sales with a Window Display

WHAT energy has ever been put behind the Ultex Onepiece Bifocal? One answer will be the positively new window display, lantern slide, blotter and newspaper ad material appearing in the next issue, at the time this window is running.

If you tie one up with the other you will give this unique bifocal a chance it never had before.

Our window display this month is built around the new 21DI set of four-color sections shown in the illustration. Unfortunately the deep rich blues, oranges, ocean green and reds of this display cannot be reproduced here.

But its color vividness and novelty make it the finest display we've ever offered.

Your window will show three sections at one end set up medium high. At

the other stands the man's figure. From the eye of the figure to the distant cliff stretch a white string, dotted with black. Run a dotted string also from the eye to the book. Thus is emphasized the idea of

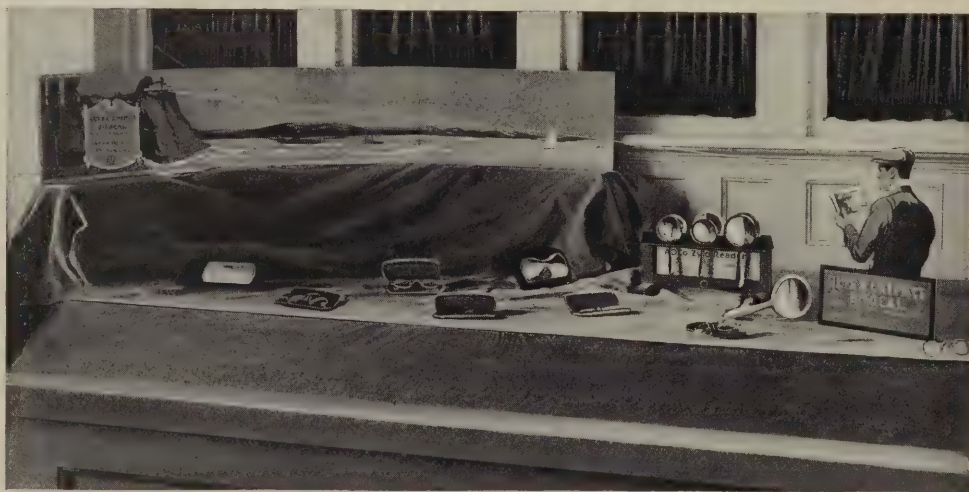
far-and-near vision in the same lens. In the foreground may be sprinkled lenses, readers or any optical goods. But the powerful, central idea should be the Ultex Onepiece 21DI set with other decorations subordinated to it.

Excellent profits, a superb lens, plus the complete campaign assistance of Ultex Onepiece blotters, lantern slides, etc. make the Ultex Onepiece Bifocal an advantage to be improved to its utmost.

If you, Mr. Dealer, will take advantage of this opportunity, will put all your resources and skill

behind it, you will find the willingness of the public to buy the best not a matter of price but of quality.

Your greatest salesman is your window and aside from the incidental



advantages of prestige, interest, and reputation for being wide awake you will earn material profits from our monthly suggestions. No. 21DI at \$1.00 complete will start your window for you.

Range Tests with Noviol

Chicago, Ill.

GENTLEMEN:—You are desirous of having all the information that you can possibly get relative to the different shots that were made at the Grand American Handicap Shoot with NOVIOL AUTOGLASSES.

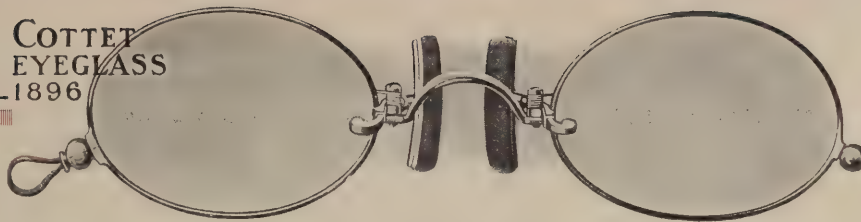
We are not able to give you the scores but would say to you that there were many NOVIOL AUTOGLASSES used and with the greatest of success by those who wore them, as is indicated by the fact that The Grand American Handicap was won by L. B. Clarke, using the

NOVIOL AUTOGLAS, and that the World's Championship Double Target and the Amateur Championship Double Target were both won by G. V. Deering with the AUTOGLAS, and further, that there were more AUTOGLASSES used by the shooters in Chicago, at the Grand American Handicap Meeting, than all other shooting glasses combined.

We feel that a perfectly fair advertising statement is to say that "fair shooters are helped materially to make good by the use of NOVIOL AUTOGLAS."—E. E. S., F. A. HARDY & Co.

Have you tried this new lens for shooting or snow glare? It is one of the great lens discoveries of the past year. A glare proof glass that enhances distant objects with remarkable vividness.

COTTET
EYEGLASS
1896



Twenty Years After Cottet

IN 1896 Jules Cottet of Morez du Jura, France, gave the world its first practical fingertip mounting.

In subsequent years many hands improved and refined it. The art of the designer, the skill of the mechanic and the wizardry of the gold worker were concentrated on one object—the making of a perfect fingertip mounting.

¶ The Cottet that was became the Fits-U. In the hand of the designer it took on graceful lines; the mechanic gave it new mechanical principles such as the AO loop, the Narrow P.D., and the Ovalex Spring. The gold worker finished the task with the artistry of his kind.

¶ And now—twenty years later—begins the history of another improvement—the Self-Centering Fits-U.

¶ Inheriting all these advantages, the new Fits-U creates an integral, self-centering bearing pad and bridge. Its simplicity and quickness of adjustment at once becomes evident. The bearing pad is a rest only; the function of holding the mounting on the nose is given to the rocking blade. The extra long rocking-pad blade with the AO loop adds a wide range of adjustment and a broad, comfortable holding surface. Strong spring tension is thus made unnecessary.

¶ This is the new Fits-U that invites closer inspection. It is our anniversary New Year's product made in 1/10 12K and 10K, and 14K solid gold. Sold in the short p.d. with zylonite pads. Sharkskin pads \$1.50 doz. extra.

Prices: 1/10 12K \$7.50 doz.; 10K \$16.50 per doz.

Above prices current for U. S. A. only

“The Autocrat of the Fitting Table”





Will You Be Prepared—

When the great army of Motorists takes to the high roads next month?

Motoring, driving, shooting and protection glasses will prepare you to meet the fast-coming demand of this vast army.

Now is the time to intrench and start your Spring offensive with a complete line of Roadster Specials, Speedsters, Protex, Colored Set and high quality motorglasses.

While the buying season's on, begin to look over all of the

Four Startling New Models This Year

The great new models—The Biplane, Boy Scout, Closed Sedan, and the Light Six—will be seen in your new Motorglass and Amoptiscope catalogue just off the press. Deliveries on new models begin early in March; on regular styles immediately from stock. Be prepared by consulting your jobber *now*.

**SEND FOR YOUR MOTORGLASS
CATALOGUE TODAY**

Amoptico

Published by the American Optical Company
at Southbridge Massachusetts

Vol. IV

March, 1916

No. 12



Entire Work Copyrighted 1916 by the American Optical Company

Motorglass Number



Eavesdropped on a Western Pullman

"I WAS en route West of Chicago" writes in L. W. Bugbee "when I chanced to hear two strangers talking about their glasses. One said to the other with evident pride 'My glasses are bifocals. I paid \$10.00 for them.' Said the other 'Mine are Ultex Onepiece; they cost me \$15.00.' From which I concluded that price is often no consideration when a man gets what he thinks is the best. If he *knows* his bifocal or the onepiece is the best, the price only serves to confirm it."

It will never be proved, until science finds a new lens, that there is a bifocal on the market superior to the Ultex Onepiece.

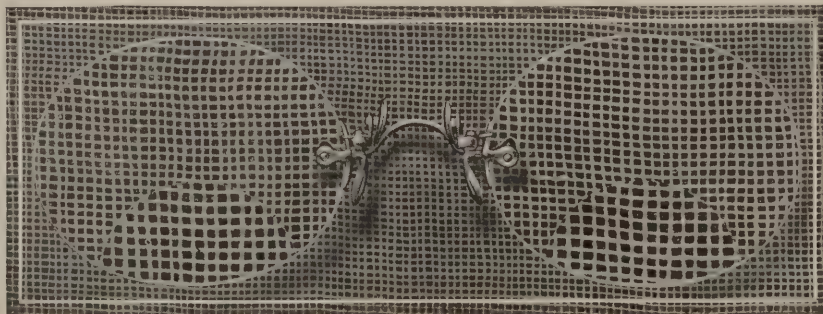
Regardless of price, there are certain physical and scientific merits that belong to the Ultex Onepiece as to no other. It offers admirable sales opportunity to the man who cares to look into as fine a bifocal proposition as this.

A comparison of the Onepiece with any other bifocal, in the strong curves, clearly shows the distinction in thickness between the heavy, conspicuous kinds and the Ultex Onepiece. The Onepiece can be ground much thinner, and far and near sight are ground from one single piece of crown glass.

The High Quality lens man of tomorrow will recommend the

Ultex Onepiece Bifocal

UNI-BIFO "LUXE" (Trade Mark)



"A Single Lens With a Double Purpose"

Reg. U.S. PAT. Off.

A m o p t i c o



Emery That Materially Reduces Shop Expense

ABRASIVES THAT CUT DOWN AOC_o MANUFACTURING COSTS
MADE TO PRODUCE SAME RESULTS IN
YOUR OPTICAL SHOP

“HOW DO you keep down your costs of lens manufacture? It must be a ticklish proposition eliminating waste where you turn out millions of lenses a year”—is a question often asked by visitors.

Inevitably there must come the reply “Ticklish indeed! So many factors combine to spoil the lens in process that we can only hope to minimize our losses. The percentage of loss between the rough glass and finished lens has always run high despite the most careful handling.”

But there always follows the corollary to a statement like this, that the most careful and scientific methods have effected great savings and improvements in lens manufacture within the past few years.

Getting back to sources, the matter of emery can well be cited as a specific illustration. Obviously it is imperative that the grinding of millions of lenses annually be accomplished by the most perfect abrasive known. Manufacturing economy demands it; constant experiment, competition and quality motives carry it into effect.

The foregoing serves to convey the reasons for the claims made that AOC_o emery is the finest grinding abrasive that science and years of practical test have yet been able to produce. The trade is coming more and more to realize that the emery that cuts down our production costs likewise cuts down their shop expense. The emery that grinds AOC_o lenses is the same emery, with

four degrees of fineness, that grinds a nation's lenses in the wholesale and retail optical shop.

The methods employed in the search for such an abrasive are interesting and tell of the use of sand, emery and lastly corundum, which is the commonly called emery of today.

The grinding process was formerly done with sand, and if time had been no object its use would have been fairly satisfactory. It cuts rapidly at the start, owing to the physical formation of its grains or crystals, although being but slightly harder than the glass itself it breaks down rapidly and requires constant renewal. It is still used on some lines of glass grinding where it can be shoveled on in large quantities, but for spectacle lenses, in this country at least, its use has long since been discontinued.



AOC_o Emery is graded to avoid scratches on lenses

The next step forward in lens grinding was taken when emery was substituted for sand. This material is a more or less impure oxide of Aluminum, the impurities being iron and other metallic oxides combined both mechanically and chemically. It occurs as a granular or massive dark colored substance, looking very much like iron ore and in fact may be more properly regarded as a rock than as a definite mineral. Its hardness is from 8 to 9, according to its purity; the hardness of quartz being 7, that of corundum being 9 and that of the diamond 10. In its purest form when composed of from 90 per cent to 95 per cent Aluminum oxide, it is called corundum.

Emery varies much also in its physical structure, and as its abrasive power depends as much upon its physical as its chemical properties, it can be readily

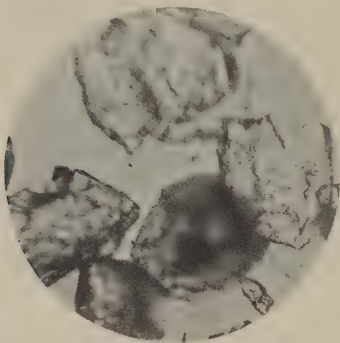


Figure 1. No. 70 Corundum, magnified 75 diameters

seen that unless great care is used in selecting it, the results consequent upon its use are bound to be uncertain. Lens manufacturers, therefore, have taken great precautions to procure emery which is taken from the same mine to ensure its running as uniform as possible.

In spite of the utmost

precautions, however, great variations occur in the quality of the grinding which are directly traceable to variations in the emery.

As before stated, there occurs a form of Aluminum oxide much purer than emery, called corundum.

With the idea in view of securing a much more uniform abrasive than emery, the AOCo some years ago began using corundum. It was difficult at first to make the lens grinders take kindly to the change, as the notion prevailed that a certain amount of dirt was necessary to hold the emery in place on the grinding tool. If this theory had been correct, then there could have been no doubt that emery filled the bill, as it contained 25 to 35 per cent impurities or dirt. Experience, however, proved that dirt was not necessary to grind glass, and that by using a finer grade of corundum for finishing than was necessary with the soft and dirty emery, splendid results could be obtained. Because of these facts the use of emery was discontinued and corundum substituted, making as long a step forward as that from sand to emery.

The benefits derived from this change are not confined to the AOCo factory, however, as AOCo M302, M302½, M303 and M303½ are now composed of corundum altogether although still designated as "emery" as a trade term, thus giving our customers the benefit of the change. AOCo M302 is intended simply as a smoothing emery to grind out the rough pits left by the

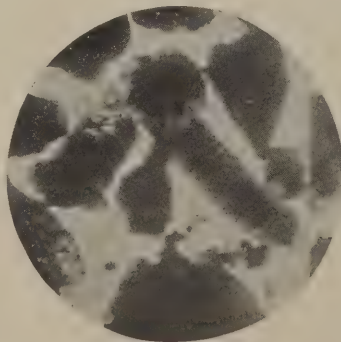


Figure 2. No. 70 Emery, magnified 75 diameters

AOCo M301 or roughing emery. Not less than ½ mm. should be removed by AOCo M302. AOCo M303 is intended to be used after AOCo M302 as a finishing emery, and as it is extremely fine, great care must be taken not to use too much pressure or to run the emery too black or dead, as the lens is thus almost sure to rub on the iron and tear deep grooves in its surface which resemble scratches caused by coarse emery. On this account AOCo M303 emery is sometimes condemned as being gritty, when the real cause of the trouble is either too great pressure or running the emery too dead or else too dry.

It sometimes happens that a can of AOCo M303 smoothing emery is returned to us from a customer with the statement that the shopmen have complained of its scratching. In every case the material returned is subjected to a very thorough test in our hand surfacing department besides microscopical tests in our laboratories. Occasionally we find coarse grains in the fine emery returned, and when this happens we find that the emery has been mixed with water and is lumpy. We have accounted for the coarse grains in the following way:

It is customary with some shopmen to have their cans of AOCo M303 smoothing emery on the bench beside them. In finishing, the operator dips his finger in water and then dips it into the can of fine emery, feeding this emery onto the lap. This is a practice to be deprecated, as there is danger of conveying grit and coarse emery into the can containing the finer grade. The safer and more economical practice is to pour out a small portion of the fine emery into a suitable flat pan, and when this is used up pour out another portion. In the interim, the cover should be replaced on the can.

Extraordinary care is used in manufacturing this AOCo M303 finishing emery to obviate the danger of any foreign matter becoming mixed with it, and if these precautions are taken by the shopmen there should be absolutely no loss from scratches.

For those who insist on a more rapid cutting emery than AOCo M303 we furnish AOCo M302½ finishing emery. This grade will stand more pressure than AOCo M303 and cuts considerably faster. It must be worked down more at the end of the finishing

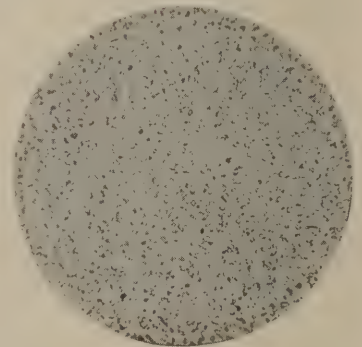


Figure 3. AOCo No. M302½, magnified 75 diameters

process. In other words, it must be run dead. While the AOCo M302½ can be used directly after roughing, we do not recommend it, but advise always using

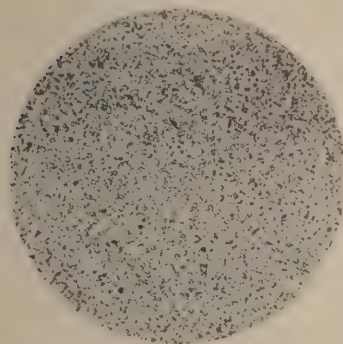


Figure 4. AOCo No. M303, magnified 75 diameters

AOCo M302 for smoothing preparatory to the finishing process. This not only saves time and ensures better work but conserves the more expensive AOCo M302½ or AOCo M303 finishing emeries.

The AOCo M303½ grade mentioned above is a special grade of emery which is prepared particu-

larly for microscope and camera lens work. This grade, as well as AOCo M303, is sought for by the most noted scientific instrument makers of Europe, who pronounce it better than they have been able to procure elsewhere or to grade themselves.

The reasons for this superiority are due partly to AOCo methods in selecting materials, partly to processes in grinding, by which the little crystals of corundum are robbed of their sharp, jagged edges, and perhaps most important of all, the care and skill used in grading.

Corundum runs, as stated, from 90 per cent to 95 per cent Aluminum oxide. It is the work of the chemist in the AOCo chemical laboratories to analyze each shipment and see that the material is sufficiently pure Aluminum oxide. This is not all, however, as corundum from some localities often contains a high percentage of Amorphous Aluminum Oxide. This latter is to corundum what charcoal is to the diamond. It is non-crystalline and therefore not an abrasive. It is the duty of the AOCo metallurgist, with his microscope and micro-photographic apparatus, to examine the material for this defect. We are thus sure of pure materials to start with.

The accompanying illustrations showing microphotographs will be of interest as showing the physical structure and relative sizes of different grades of emery or corundum.

Fig. 1 is No. 70 corundum magnified 75 diameters. Note the transparency of the crystals, also the clean, sharp cutting edges.

Fig. 2 is No. 70 emery of the best grade magnified 75 diameters. Note that the grains are so full of dirt as to be absolutely opaque—over 30 per cent impurities which can do no effective work.

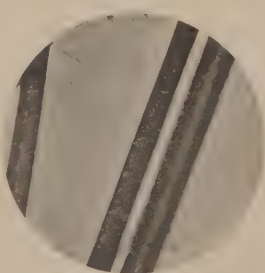


Figure 5. Human Hair magnified 75 diameters

Note also the absence of clean, sharp, cutting edges.

Fig. 3 is AOCo M302½ finishing emery magnified 75 diameters. Note the freedom from dirt, also the absence of any amorphous or non-crystalline material. Every grain clear as crystal.

Fig. 4 is AOCo M303 finishing emery magnified 75 diameters. Note that the grains are a trifle smaller than Fig. 3. Note the difference between the jagged cutting points of Fig. 1 and the smoothly rounded grains of Figs. 3 and 4. This difference explains at once why the emery manufacturers are unable to produce a suitable finishing emery that will not scratch. Emery manufacturers crush their emery or corundum to obtain the different grades. Hence the grains have jagged edges and sharp corners which are bound to scratch. The smoothing and finishing grades of emery supplied by the AOCo have the sharp corners rounded off.

Some shop men are accustomed to use FF emery for smoothing, as supplied by emery manufacturers. On account of the crushing process by which it is produced it is bound to scratch, and these scratches must be ground out by the finishing emery. Thus, in order to save a few cents a pound for smoothing emery, valuable time and expensive finishing emery are wasted.

Fig. 5 shows human hair magnified 75 diameters. This will give a comparative idea of the extreme fineness of finishing emery. The average hair measures 3½ thousandths of an inch or closely 1/10 mm. AOCo M302½ finishing emery grains measure closely 1/100 mm. in diameter, AOCo M303 finishing emery measures 7/1000 mm. and AOCo M303½ about 5/1000 mm., so that the average finishing emery for prescription grinding measures 1/10 the diameter of a hair. The methods by which these fine grades of emery, or rather, corundum, are graded in the AOCo plant, are marvelous, and they have been perfected to such an extent that we have no hesitation in pronouncing AOCo M301, M302, M302½ and M303 emeries the best in the world for ophthalmic lens work.

If you do lens surface grinding and have not already tried AOCo abrasives, send for samples. If you have tried them and have not obtained the results expected, send for advice.



Universal Adjustability of Fits-U Eyeglasses

Advantages enabling the optician to provide a perfect and comfortable fit in every case

THERE are so many advantages inherent in the fingertip construction employed in the Fits-U eyeglasses that it is hardly fair to ascribe the great popularity of these wares to any one feature. From both the optician's and the wearer's point of

view, this would undoubtedly be the almost universal adjustability made possible by the AOCo patented guard arm (AO-ARM), and the comfort that results from a perfect-fitting pair of glasses. This is accomplished by a very simple expedient—so simple in fact, as to occasion wonderment regarding its adoption at this late day, as it merely consists in *joining the arm to the guard at the rear edge* of the latter, instead of the front; one of those things, the advantages of which are so apparent that it should have been thought of long ago.

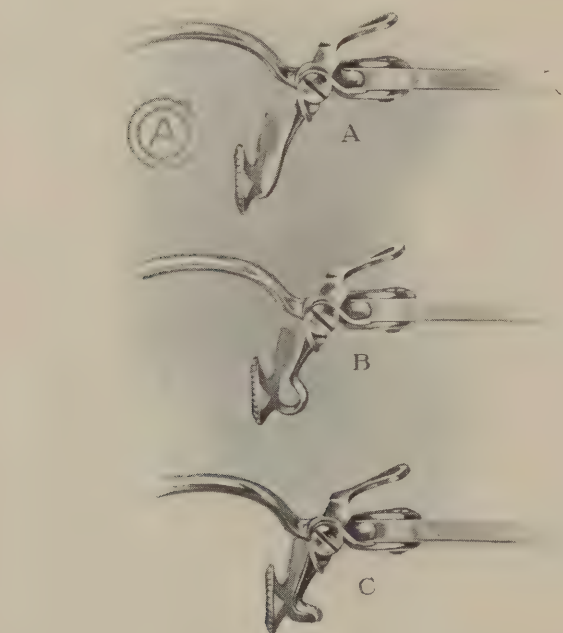


Fig. 1. Fits-U Adjustments for depth

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Some idea of its importance may be gained by pointing out its great possibilities of adjustment as shown by the accompanying illustrations.

For example, take Fig. 1, which illustrates the possibility of adjustment for what may be termed "depth." In other words, the distance from the surface upon which the bridge of the glasses rests to the sides of the nose against which the guards press. This is a feature of "nasal architecture" which differs widely, as opticians are aware. Adjustment A shows the guard arm bent to a position allowing for maxi-

mum depth. In order to emphasize the extent of this particular adjustment, the latter has been slightly exaggerated, but a nose requiring such an extreme adjustment is by no means beyond the range of human possibilities, and it is for unusual cases of this nature that the Fits-U eyeglass is particularly valuable. Adjustment B is for what might be termed the normal nose, so far as depth is concerned; while C illustrates an extreme, the opposite of that shown by A. In other words, C will give as perfect and comfortable a fit for a very flat nose as A will for a very deep nose, the distance from the guard to the bridge being the minimum in one case, and the maximum in the other. These three adjustments and the many degrees of variation possible between them, are all made in a horizontal plane to accommodate the mounting to differences in this characteristic of the nose.

In Fig. 2, one of the forms of adjustment in a vertical plane is shown. As will be apparent from the drawing, the object of this adjustment is to permit the mounting to accommodate itself to differing angles, and widths of nose. In this, it is difficult to define any position as normal, so that merely three extreme positions are illustrated: D for a very straight and narrow nose; E for one in which the nose is narrow at the bridge or the sides spread at a very obtuse angle, while F is for a case in which the nose is wide at the bridge but tapers inversely, being narrower below than above—apparently an impossible case, but doubtless one of which nature can furnish examples—likewise one that further emphasizes the extreme range of adjustability of Fits-U Eyeglasses.

Fig. 3 illustrates a series of adjustments also in a vertical plane, but at right angles to those of Fig. 2. These are designed to permit the guard to accommodate itself to peculiarities of nasal formation, such as varying angles from bridge to base (i. e. at the eye), these adjustments naturally being made in conjunction with those shown in Fig. 1 for depth. As is the case with the latter, they are somewhat exaggerated in the drawing to accentuate



Fig. 2. Fits-U Adjustments for width

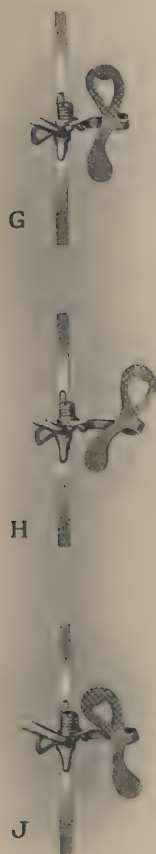


Fig. 3. Fits-U Adjustments for Slope of Nose

the extremes possible. It will be easier for the optician to recognize the conditions for which they are intended than it is to describe them in so many words.

The illustration K in Fig. 4 shows one of the important advantages made possible by the AO-ARM of the Fits-U mounting. By a simple bend of the guard arm, the amount of separation between the two guards when the mounting is worn, can be set accurately. When properly made, this adjustment prevents the annoying constant pressure on the nose unavoidable in other forms, and the glasses are worn in perfect comfort. These guards exert a lateral pressure limited by their adjustment and then their action *stops* due to the fingerpiece arm being held against the lens straps. The illustration represents a view of the glasses directly from above, or as they would be seen set upon a section of the nose. It shows that when properly fitted, the weight of the glasses is borne directly by the bridge of the nose, as with spectacles. This relieves most of the strain on the guards, which

become simply a mechanical means of steadying the glasses. The pressure of the guards on the nose need only be sufficient to accomplish this.

L shows the limitations of the ordinary type of fingerpiece eyeglass on which the patented AO-ARM is not employed. It graphically illustrates how the guards, which with this construction cannot be properly adjusted, will tend to dig into the flesh, causing constant irritation and annoyance that may result in soreness and possibly infection.

Contrast carefully these two illustrations, K and L, and your knowledge of eyeglass fitting will immediately convince you that the Fits-U structure is the only practical form worthy of your consideration. All the special adjustments referred to in the foregoing depend for their practicability upon *joining the arm at the rear edge of the guard*, as in K. What is particularly important, this rear arm attachment gives an unbroken forward edge to the guard blade and by slightly bending these edges *in* towards the nose there is no tendency for the glasses to slip or tilt forward.

Another important optical advantage possessed by Fits-U fingerpiece eyeglasses is the fact that the rigid bridge maintains exact pupillary distance and alignment of the lenses at all times. This means that prescriptions may always be worn exact to center and at the correct axis in the case of cylinders, compounds, etc. This advantage alone is sufficient to give them preference over any type of flexible eyeglasses, according to many authorities.

Aside from these features are some other important facts which have a direct bearing upon the subject and are of special interest to the practical optometrist. We refer particularly to certain refinements in construction which are vitally important, and we direct particular attention to them so that you may look for these features in whatever fingerpiece eyeglass you are using. These were described in detail in the November, 1915, issue of AMOPTICO. The action of the guard arm must be free and easy, and in this connection it is desirable that the fingerpiece eyeglass you adopt should have a proper bearing in which the arm moves. This is usually accomplished by the employment of a tiny washer between the coil spring and the guard arm, allowing a free movement with no tendency to bind the arm or to loosen the screw. It is well to remember that the simplest construction is apt not only to present the best appearance when worn but will, as a rule, stand up the longest and give the wearer best satisfaction.

It is important that your fingerpiece eyeglasses have these structural refinements.

When you have Fits-U goods in your stock use our advertising helps to move them out for you. We create Fits-U demand for you and help your turnovers. There is less trouble, effort and expense selling the Fits-U.



Fig. 4. The Old and the New Way

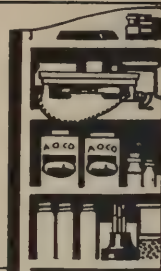
K. The New, showing the patented AO-ARM construction of the Fits-U eyeglass, and its great adjustability.

L. The ordinary type of fingerpiece eyeglass, showing the extremely limited scope of adjustment.

KeeLockK slots can be made in lenses in just about *half* the time it takes to drill a hole and ream it out. Not only that but the operation is safer. Why are you holding off when the KeeLock has been so universally endorsed? Investigate—obey that impulse.



Practical Talks with the Shopman



EDITOR'S NOTE: These articles comprise a series of five Talks on Surface Grinding and Polishing by R. L. Gordon of our Optical Equipment Division. The subject will include interesting and instructive articles each month on: 1. The Nature of Optical Glass; 2. The Materials used in Grinding and Polishing. 3. The Machinery and Tools Needed for Surface Grinding and Polishing, together with notes on the proper care of the same; 4. Methods used in Grinding and Why; 5. Methods of Grinding Special Lenses, such as Kryptoks and Ultex One-piece Bifocals.

IV. Methods Used in Grinding and Why

THE first step, and by no means an unimportant one, is the selection of the blank. Size, thickness and index of refraction must always be considered, while the kind of mounting, the shade or tint, the curvature of the side already ground, the number of the blank, if a Kryptok or Ultex One-piece, and the direction of the axis of the cylinder,—all these are factors that determine in special cases the kind of blank that must be used.

An intelligent surface grinder can save time and money for his employer by a little foresight. The spoiling of a blank does not mean the loss only of the cost of that blank and the time consumed in making it, but also the profit which should have been made on the particular job. If each job is figured out carefully and a clear conception formed of just what the lens is going to be like when completed, it will be surprising what results may be obtained in getting out special lenses from ordinary blanks, as well as in the lessening of the number of foolish mistakes, with the consequent loss of lenses. This matter of figuring the thickness of a lens will be considered in detail later on, but on account of its importance is mentioned here as being the first step in the operation of grinding a lens.

Getting Ready to "Block" the Lens

THE proper blank having been chosen it must be attached to the block, (see Fig. 1) by means of pitch (M312½). For this work it is advisable to provide a special raised table or shelf above the bench about 30 inches square which should be covered with asbestos and then with a sheet of iron. An ordinary Bunsen Burner attached to a short length of rubber tubing and, if used a great deal, a pilot light which can be kept burning at all times, should also be provided. On the back of the table should be placed a box with compartments for holding the various blocks. These should be provided in flat, convex and concave for both cylindrical and spherical work, as well as some of special size and shape, so that it would be well to provide about 10 compartments for this purpose. Much time will be saved if each style is kept separate in its own compartment.

"Pitching" the Blank

THERE are many good ways of applying the pitch, but one only will be described. Lay the lens on the table with the side up which is to go next to the block. Next to the lens lay the block, face up, to which the glass is to be applied. With the burner in the left hand pass the flame back and forth over both blank and block until each is warm. With a stick of

pitch in the right hand, holding it over the lens, pass the flame over the pitch, letting it melt and drop on the lens until it has a coating all over the back. Then drop the pitch upon the block, putting on enough to form a good backing for the lens. Lay the pitch down and play the flame again over the glass and block, if necessary, until both are sticky; then pick up the lens and turn it over upon the block. Before it cools off the lens must be placed in position centrally and evenly with the block, or otherwise the lens will grind thin on one side. If the lens is to have a cylinder ground on it with its axis in a certain predetermined position (as is the case in all Kryptok and Ultex One-piece lenses) it must be attended to at this time.

Be sure that the lens has a solid backing of pitch, otherwise in bearing on it while grinding it may break or move out of place and an imperfect surface be produced. In order to measure the thickness while grinding it is necessary to scrape off the pitch from four points at right angles to each other on the edge of the lens. This should be done after the pitch has hardened. The lens is now ready to grind. As there are two kinds of surfaces we will describe the grinding of the spherical surface first.

Grinding the Lens

AFTER ascertaining the proper curve to be ground, take the gauge (M41) of the desired curvature and inspect the tool (see Fig. 3) on which the lens is to be ground. If



Fig. 1. Grinding Blocks. Fig. 2

a considerable amount of stock is to be removed from the lens blank, it is not of so much importance to examine the curve of the tool until after this surplus stock is removed, as the curvature of a tool is sometimes considerably altered by this roughing process. In fact some people find it of considerable advantage to have a set of roughing tools, varying in curvature by differences of one or one-half dioptries and this practice is undoubtedly a very good one, as it saves time and expense in re-truing of tools.

Shaping up the Lens

PLACE the tool on the spindle of the surface machine and hold the lens by hand on the tool, applying coarse emery mixed with water to the surface of the tool. As soon as a small amount of stock has been removed from the blank, the pin on the handle of the machine may be placed in the center hole of the block. The handle should be so adjusted that this pin will point toward the center of the curve of the tool when

the block is held about half way between the center and the edge of the tool. The machine can then be started up and emery applied as before. Move the handle back and forth slowly so as to bring the edge of the lens towards the center and then back towards the edge of the tool. Never bring the center of the lens across the center of the tool, as it is apt to fly off and



Fig. 3. Convex Grinding Lap and Gauge

break. The lens must now be examined from time to time to see that it is not grinding thinner on one side than on the other, which will happen if the pin is not resting directly over the middle of the lens blank. If it is found that the lens is grinding prismatic, or thinner on one of its edges than on the opposite, it will be necessary to hold the lens by hand, pressing down on the thick side of the glass so as to remove the surplus glass from this edge. Many people prefer to use a block which has, besides the hole in the middle, other holes at right angles to each other (see Fig. 2), and if the lens is found to be grinding thin on one side the pin is lifted from the center hole and applied to one of the holes which will increase the pressure over the thick part of the lens and gradually grind true.

Fig. 4 shows the M197 Millimeter gauge for caliper-ing the thickness of the lens. The graduations are in $\frac{1}{2}$ of a millimeter. This instrument is indispensable for every man handling lenses. It is extremely quick acting and can be readily carried in the vest pocket.

After the lens has been brought down to a thickness about $\frac{1}{2}$ of a millimeter greater than that desired in the finished lens, the tool block should be carefully cleaned from all traces of the rough emery. The finer grade, such as our M302, should then be applied in the same manner as the roughing emery. As this is not intended to remove stock, but only to break down the rough surface left by the coarse emery, it will require but a short time and little emery to finish the second operation. It is important, however, that this work be very carefully done. All traces of scratches or defects left from the roughing must be removed.

Running Emery Black

THIS emery should be mixed with a small amount of water to form a paste. Apply this with a small brush to the center of the tool, allowing it to work out towards the edge while running. A little over $\frac{1}{16}$ of a millimeter of glass should be removed during this process. When the last applications of this grade are

made the emery should be worked down or worn smooth and fine by applying a drop or two of water onto the surface of the tool, just sufficient to keep the emery moist. It will gradually assume a very dark shade, almost black, which is usually an indication of good workmanship. On the success of this operation is dependent to a large extent the final perfect polish of the lens.

When this operation is finished, the block and tools should be again thoroughly cleaned and the final finishing emery M303 should be used in like manner as the M302. Care must be taken that a film of emery should be continually kept between the surface of the glass and the tool. If this is not done, the iron of the tool will chip the edges of the glass and fine grains of glass will break off and roll under, scratching the surface of the lens. Many times the emery is blamed for this scratching, when the operator is at fault.

After the Final Grinding

AFTER this third and final grinding the lens and tool should again be thoroughly cleaned and a polisher, M306, should be pasted to the tool by the use of M321 cement. This is applied to the surface of the tool, while it is running, by means of a stick or knife. This is such a sticky substance that it is hard to get onto the tool while cold, but the friction of the stick against the tool soon warms the cement so that it runs freely. After an even coating has been applied the polishing cloth is placed on the tool so as to fit down smoothly all over. This is sometimes done by placing the opposite tool on top of the polishing cloth. Other operators smooth it down by the lens blank itself, which is held in the hand or spinning on its center.

If the polishing cloth is a new one it is advisable to hold it over a flame and burn off the nap. Polishing Compound (Rouge) moistened with water and of about the consistency of soft butter should be applied to the cloth and the lens then polished in the same manner as when grinding. Frequent application of the rouge is necessary and this is best done by a stiff

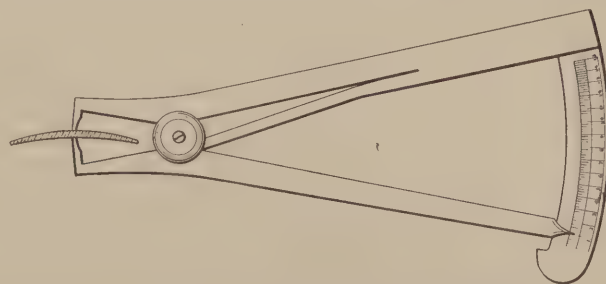


Fig. 4. Lens Gauge for Measuring Thickness

bristle brush. After the lens has been polished it should be allowed to cool to the temperature of the room, when it should then be held under chilled water which will cause the pitch to contract and loosen from the lens. It can then be removed, either by tapping it very lightly or by twisting it with the hands. The small amount of pitch which adheres to the back of the lens can be removed by washing with turpentine, gasoline or wood alcohol. The grinding of cylinders will be taken up in our next issue.

Closing Up Enlistments in the Sharkgrip Guards

Class of 1916 Responds to Call for 100% Increase
in Dealer's Sales This Year

IT was threatening weather, blustery and all that, with a heavy nor'wester storming up, so I jacked down the oilskins and set off for the Coast as I often do. The prospect of facing a storm was too exhilarating.

Then, too, I had a hunch that the Commodore would be forced to lay in shore for shelter. So I perched on Sharkgrip rock and opened a weather eye.

Sure enough. A lashing wind was whipping the sea into a fury and the rain had turned my oilskins to a glistening black when up rolled my fleet commander alongside, dripping wet.

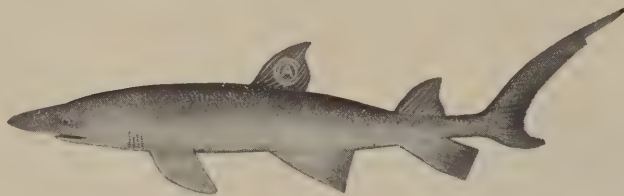
"Submarine ahoy. Finny, you roll like a drunken sailor. Whither away?" It was easy to see he was riled up about something.

"How many Sharkgrips did you get away with last year?" he bellowed through the storm.

"Twice as many, or 100% over the year before, Finny," I hollered back. "Why?"

"Cause my whole family's lit on me for betrayin' the race," he wailed. "They tell me I'm due for a watery grave if I don't quit givin' them up to you people. They say the American Op and Jones is killin' off the race as fast as you can catch 'em. Another year at this rate and we'll all be minus 100%. What'm I going to do?"

"Don't be a wart on the nose of progress, Finny," I advised, rising to a posture like General Scott addressing the Indians; "go back and tell your people that the noses of the nation need their assistance. Tell them that it is the duty of every shark to volunteer his grip in the interests of eyeglass safety. Impress upon



Commodore AO Finny of the Sharkgrip Fleet

them that the interests of the eyeglass community are greater than those of the individual. Reason with them—every one of you should be on guard—but if they'll not listen to reason tell them we'll get them any-

way, for *we must fill the demand*. We will need another 100% quota in 1916."

The Commodore's eyes took fire at this picture of national eyeglass safety. He plunged forthwith into the deep and, as he told us later, he laid the situation before the whole family.

"Men and Women of Sharkgrip Village: It is given to our little locality to guard the nation's eyeglass safety. We are known far and wide for our unique ability to stick where others slip. Those noses that are known to abhor glasses welcome the Sharkgrips for there's no other guard that will fit such extreme types of probosces.

"A nation of eyeglass wearers to-day is feeling the burdensome pinch of glasses with the vise-like grip that leaves flesh impressions deep as a plowed field. You, my people,

possess the grip of the Sharkskin that clings without soreness. You have a light and medium pressure for the heavy spring is unnecessary. And perspiration runs off your sanitary sharkskin back with no corrosive effect. What do you propose to do, oppose eyeglass progress? I ask you to stand by and send your quota of another 100% this year. What's the answer?"

A myriad of bubbles rising to the surface beneath my feet told me that the vote was "aye."

This unique mounting "that sticks where others slip on noses that others will not fit" is a fast moving line of goods for the dealer. It offers him splendid profits and satisfaction. Extra large Sharkskin pads are supplied on regular Fits-U guards.



Extra Large Sharkskin Pads on Fits-U Guards



Patented

The KeeLock Sharkgrip Carries Exceptional Security

Moving Your Motorglass Lines This Season

EVERY merchandiser of optical goods knows the difficulty of getting new business and bringing his goods constantly to the attention of regular customers. Particularly is this true in a profession where ethics enter into the problem.

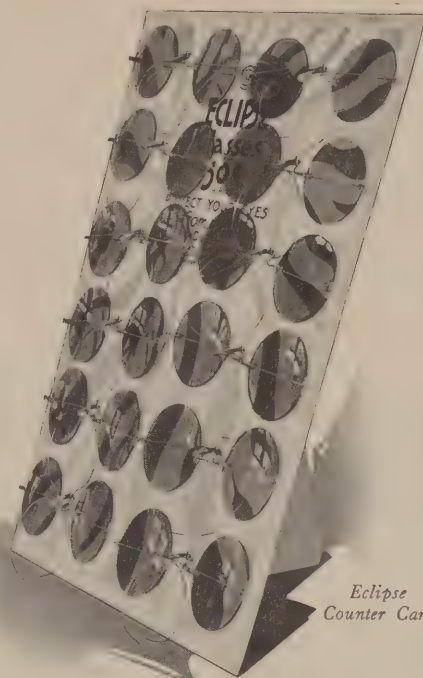
Eight months of the year this problem bothers the dealer in motor and sun glasses. He is offered a vast amount of these goods with few suggestions on how to move them. It is the purpose of AMOPTICO again this year to indicate how this can be done.

In our new Motorglass Catalogue, just out, we offer two distinct classes of goods, High Quality Motorglasses and Protection glasses and Moderate Priced Colored Lens Motor and Protection glasses. In the High Quality division are the famous 3026½, the Vogue, the Speedwell, Kilglare, Eyedeal, Speedster, and three new 1916 styles shown on the next page. In the colored lens line are the Roadster, Shelloid, Eclipse, Roadster Special and Boy Scouts glasses.

In selling the High Quality AOCo Motor and Sun glasses, therefore, the dealer has a strong appeal to the well-to-do, who can afford to pay up to \$5.00 a pair. He is selling a distinctively stylish, comfortable and sanitary light frame with Amber, Fieuzal and Smoke lenses. If the Crookes or Noviol lens is wanted, or a prescription is necessary, the cost goes up correspondingly. But the dealer has a simple choice from a short and well tried list of High Quality goods. Selection is made easy for him.

The Colored Set Moderate Priced Lines offer him a fertile field and no confusion in choice. He knows that the Roadster and others appeal strongly to people of moderate means and this includes young people particularly. His field, on a much smaller price scale, is the same as that which gave rise to the low priced automobile.

Having selected his stock from each of these two classes of protection glasses, the dealer is interested in moving them off his shelves. Four ways present themselves, besides direct over-the-counter salesmanship:— 1. Newspaper advertising, for which we furnish cuts free. 2. Window Display to tie up with the newspaper ad and to catch the passersby. We furnish the



Eclipse
Counter Card

window cards. 3. Copy suggestions for direct letters to individual customers and the motorists of your town, telling them of your new styles in motor, sun and beach glasses this season. 4. Circulars and blotters enclosed with these letters and monthly statements.

A complete, inexpensive campaign like this by every dealer this year should bring splendid results. We not only try to sell you the goods, but we plan to stick by and help you move them off your shelves. That is the object of our advertising helps.

The dealer and wholesaler this season should lay his plans now. First, call for your Motorglass Catalogue. Second, lay in your first order early, taking care not to overstock, and third, plan and carry out your advertising-sales plan in whole or part as outlined above. Then, when the season opens BIG in May you will catch the cream of the business.



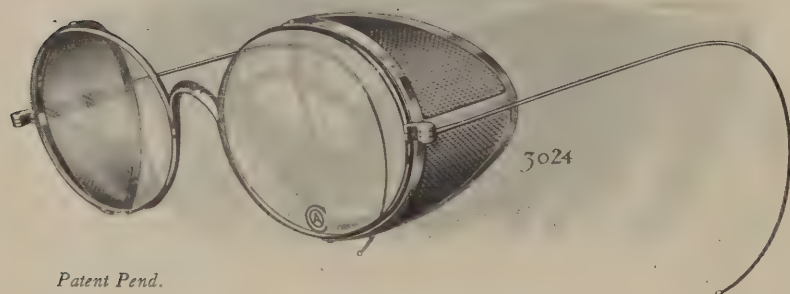
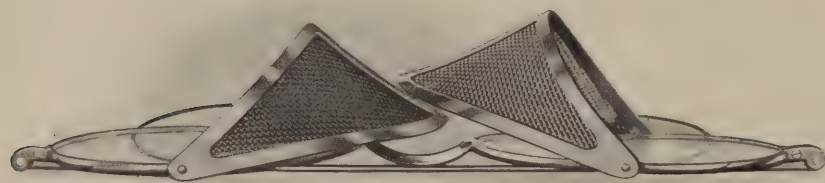
A Free Window Strip Like This in Blue and Orange Helps "Sell" Your Window



Four New Fast-Moving Styles to C

The characteristic motor and protection glass of today is the l to wear. It carries the same skilled workmanship and beautiful fi

Simplicity and sanitary li
notes of 1916 styles. A n
free. It contains prices a



Patent Pend.

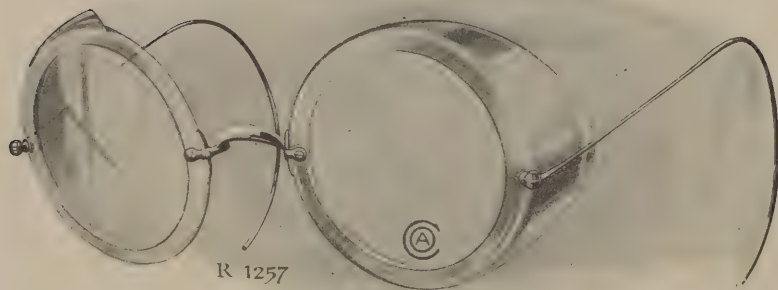
Light Durable White Metal

The newest AOC Co creations for four distinctive models shown here for in two numbers, R1257 and R857; t and 3658 (round eye); and the attr

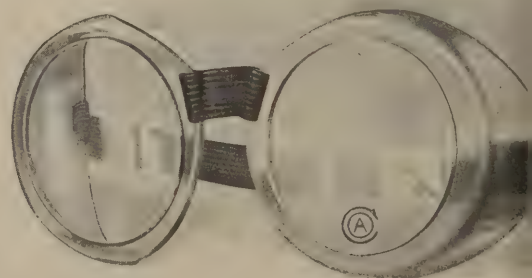
The Biplane, Nos. 3658 and 3658D (drop eye). new creation is the most flexible and consequently easiest and most comfortable style of its kind manufacture. It is instantly adjustable to any width or facial contour. It is a light, beauti finished gold-filled frame with either a drop ey round eye in mi-coquille amber or Fieuzal lenses.

In the **Boy Scout** glasses we have a vivid appe the youngsters. Hot, sunny days or the glaring da winter call for children's eye protection while at The child seeing the world through Amber and Fie and smoke which make it look different and wond will want these magic glasses that stir his imagina Boy Scouts, Nos. 8050BS, 8052BS.

These simple, elegant styles are supplemente others in the new Motorglass catalogue. Start spring campaign now.



Patented



Patented

THE CLEAR WHITE CRYSTAL ZYLOWARE



atch the Season's Motorglass Trade

t, flexible sanitary frame easy to take off or put on and comfortable
h of its more ornate predecessors, without their frills and furbelows.
t riding comfort are the key-
catalogue, now ready, mailed
complete information.

coming motor and summer season are the
first time—the Light Six, 3024; the Sedan
iplane in two numbers, 3658D (drop eye)
e new Boy Scout glasses.

The Light Six, No. 3024 is a compact, staunch white
metal frame, light and flexible with reinforced fine mesh
screens modeled to conform to the lines of the face.
The famous comfortable "C" bridge and protective
48 x 40 mm. lenses of white, amber, Fieuzal or smoke
complete the wearer's satisfaction.

The Sedan, Nos. R1257 and R857, with translucent
Crystal Zyloware eye cups, practically flesh-colored
and inconspicuous but extremely stylish. The eye
cups carry none of the itching, irritating features,
around the edges, of former cloth and fur styles. They
set lightly and comfortably with a clean side illumina-
tion and no dust. Each number carries mi-coquille
lenses of amber or Fieuzal glass with 42 mm. round eye.
The R1257 shows the gold-filled saddle bridge and cable
temples. R857 is the folding, elastic bridge and head
band style.



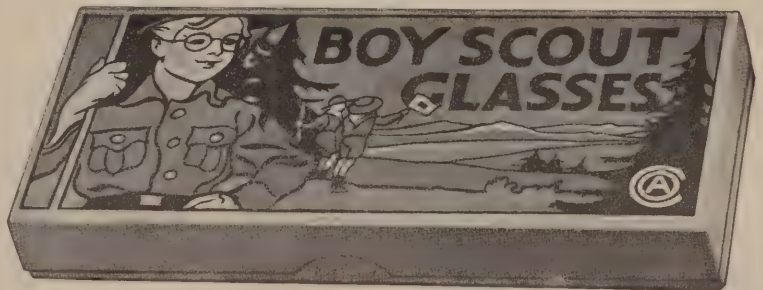
3658 D

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The Light, Flexible Biplane

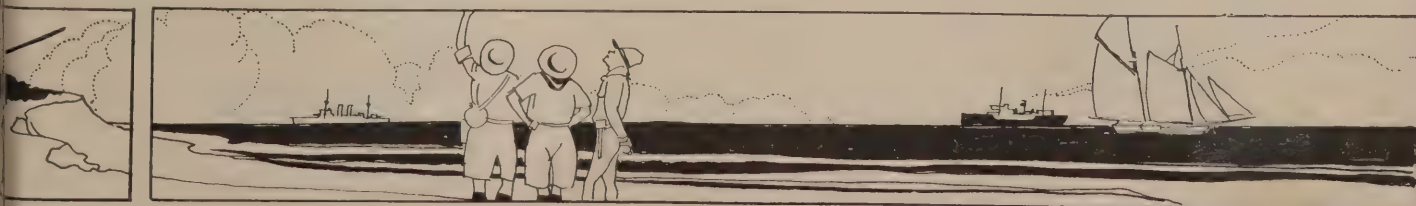


Patented



Fascinating Field and Stream Glasses or Children

the SEDAN is the Ultimate in Motorglass Styles



Making Quick Turnovers and Large Profits for the Trade

"WRIT on the door I seed 'Hayes Brackett' and beneath wuz 'Dept. Sales Manager of Spectacles and Eyeglasses.'" So I stepped in timid-like, over-awed by this gilt-edged security.



H. J. Brackett, Dept. Sales Manager

"Mornin' Hayes" sez I, with the respectful bow of the office retinue to its boss, "how's biz?"

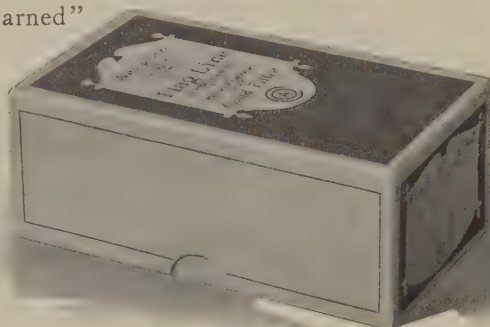
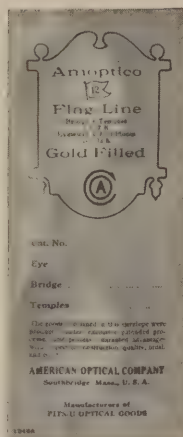
"Movin' faster'n Billy-be-darned"

sez he. "So confounded wrapped up in swinging these lines to my trade, can't spare time for church even." This was indeed serious—cutting church.

"Then you must be going some on Gold-Filled?"

"The two finest darn lines on the market" says

Hayes vehemently, galvanizing into action with a profusion of dramatic gestures. Hayes is a wiry little framework, chuck full of concentrated enthusiasm



and quick, sound judgment. He suits action to the word, but always with consummate tact. Which guarantees an active personality behind the newly formed Division.

"The KeeLock rimless specs are beauties," said he. "No screws where there were once four, and you know what that means! Security and freedom from constant adjustment. Made up in our best gold, gold-filled or white gold stock the KeeLock rimless spec is hard to beat."

"Here!" switching to another subject quickly, "Notice the non-tarnishable envelopes in blue and gold—a dozen pairs to

the box. Careful to the last we are to protect our goods and help the jobber. A beautiful package and tested quality goods help the jobber and dealer to move stocks fast. We keep demand active for the jobber and dealer by advertising, then make the worth and attractiveness of our

goods sell them off their shelves. 'Quick turnovers and large profits for the trade' is my motto for 1916."

Returns seem to predict the popularity of this idea.

Handy One Inch Magnifiers

Mr. Average Citizen, seen handling a large magnifier in public, would be taken for one of those biologists pictured in current periodicals with a lean, hungry figure and a great scoop net on the jump after butterflies.

Not so with Mr. Retiring Person, however, who attaches one of the new AOC White Metal inconspicuous 1" and 1 1/4" magnifiers to his watch chain and goes in search of knowledge anywhere undiscovered.

The 2951 1/4 illustrated here is a small edition of our

regular No. 2952. A 20 D. 1 1/4" lens, with a non-tarnishable nickel finish frame having a folding handle makes it a powerful, compact little proposition. Nothing better has been found for reading between the lines of feminine handwriting. Price \$4.50 a doz. without cases; \$5.65 a doz. with cases.

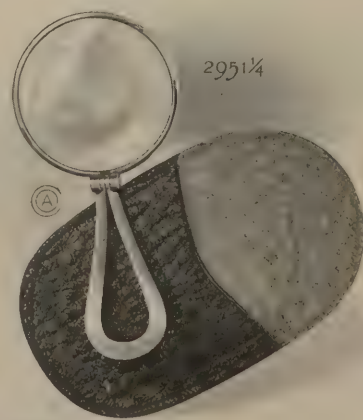
The 1931 and 1951 styles are non-folding: the former with 1" diameter assorted foci while the 1951 is fitted with 1" diameter 20 D. lenses.

Price of 1931, \$3.00 dozen, without cases; \$3.90 dozen with cases. Price of 1951, \$2.25 dozen without cases; \$3.00 dozen with cases.

You can't sell this sort of specialties unless you have a nice assortment in the show case. A word to your jobber does the trick.



Patent Pend.



Patented

Amoptico

Reg. in U. S. Pat. Off.

Vol. IV March, 1916 No. 12

Published Monthly by
American Optical Company
1833-1916Channing M. Wells Albert B. Wells
President TreasurerJ. Cheney Wells
Vice-President and Secretary

General Offices and Works

Southbridge, Massachusetts, U. S. A.

New York 15 Maiden Lane
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American Optical Company, Limited
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Western Union Code used

Manufacturers

Spectacle and Eyeglass Frames, Mountings
and Material, Eyeglass Chains, Automatic
Eyeglass Holders, Trial Sets, Trial
Frames and Accessories, Motorglasses,
Lenses, Spectacle, Eyeglasses and Motorglass
Cases, Optical Machinery,
Tools and Supplies, Etc.Copyright, 1916, by American Optical Co.
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AMERICA

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H. T. Reeve Science and Research

All Aboard for AOC Co July 18!

AMONG the treats in store for the 1500 delegates and visitors already expected at the world's optometrical congress in Providence in July, will be the Great AOC Co Special train from Providence to Southbridge for a day's visit to the Home of the American Optical Company. July 18th is the great day set aside by the Convention Committee for the big field day.

The disposition to get to the Convention and to hop on the AOC Co Special as guests of the company is the only condition necessary to the biggest time of your optometrical life. Plan for it now!!!

When you arrive—but that's a matter of secret preparations, including all manner of outdoor and indoor entertainment. Suffice it

to say that this Convention and this Sightseeing-Field day are to be the two greatest events of many an optical year. All aboard!



Wellsworth

The next issue of this magazine, April, Vol. 5, No. 1, and others following, will be called the "Wellsworth," it having been decided to change the name.

We think this name, in the long run, will be more pleasing to all than AMOPTICO.

WELLSWORTH carries a distinct suggestion of the preachment and practice. It is likewise fitting that the name of the late George W. Wells be perpetuated in the concern he built up. Wellsworth optical goods will soon be known the world over as the high quality standard lines of the American Optical Company.



Only U. S. Prices Quoted

Those ordering AOC Co. goods delivered to points outside U. S. territory must regard Wellsworth (AMOPTICO) price quotations as United States prices only. Due allowance must be made for duty, taxes and other conditions by the purchaser and added to our U. S. prices.



Greatness

¶The soul of greatness is ambition. ¶The spirit of greatness is work. ¶The success of greatness IS greatness. ¶The compensation of greatness is to never know failure. ¶The prayer of greatness is to excel. ¶Greatness is a mountain top that all men hope to climb. ¶The splendor of its granite achievement is its enduring crown. ¶It towers in its beauty and its strength above the lower levels of life. ¶Envy and cavil and calumny are but echoes against its isolation. ¶Greatness answers not. ¶It is serene, omnipotent, unheeding. ¶Only its silence

speaks. ¶Those who will not suffer the restraints of mediocrity can interpret its speech. ¶They hear its perpetual charge to dare, to be, to do likewise. ¶For greatness confronts competition with a living challenge. ¶"Scale my precipice if thou canst." ¶"Make thine own my divine restlessness to excel." ¶"My goal is a secret place that cannot be explored." ¶"Thou must live it." ¶"Thou dost only caricature me by imitation." ¶"My love of labor will make thee envied and solitary too." ¶Greatness is friendless. ¶It is ever misinterpreted, misunderstood. ¶It works, it creates, it blesses. ¶It gives largesse without stint. ¶The world accepts with greedy hands. ¶And the commercial pharisees raise their wolf-tongue of hate. ¶They disparage. ¶They defile the gift with crooked words. ¶They poison with jealousies. ¶But their deceits return again into their mouths. ¶Greatness is beyond hurt. ¶Its shield and buckler is stronger than steel, more enduring than Time itself—a still small voice—"Ye shall know me by my deeds."—Henry Knott.

Rounding Up the Lens
Business

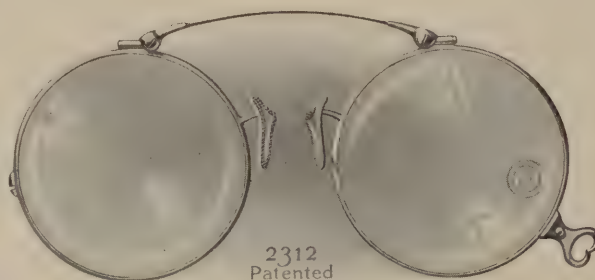
It takes a shrewd buyer to always discriminate between a fad and real evidence of evolution. Certain traceable tendencies are constantly making their movements felt in the optical business. Perhaps the most interesting has been the "growth" of lenses. Years ago—not very many at that—the 1, 2, and even 3 eye sold freely in frames and lenses in the optical market. Today oo eye is a small size. Instead, we now have as regular goods round eyes of 40, 42 and even 45 mm. in regular prescription work. What advantage are you taking of these unmistakable signs? Are you up in front with the band or lagging along with the old o and oo eye patriarchs?

This Light, Stylish, Compact Mignon Varsity is the Vogue

ONE of the most exquisite articles in our entire eyeglass collection is the New Mignon Folding Varsity, No. 2312 with its inconspicuous, durable eye-wire and bridge and the Sibley patented catch.

There is much about this delicate model eyeglass to commend it to women particularly, for evening functions and all social occasions. The light weight, beautifully finished frame in white gold or regular solid gold is an extremely becoming personal adornment. It is becoming the vogue to wear the Mignon Varsity where once the lorgnette held sway. It is less conspicuous and very stylish on the face and can be folded into a smaller space. The Mignon can be worn on any occasion whereas the lorgnette attracts undesirable attention wherever shown.

Not only has the Mignon become popular with women, but it is becoming, as well, a part of the youth's



The Mignon Varsity Will Eventually Crowd the Lorgnette

or the business man's dress. Not so delicate as to appear effeminate, it looks well on men and cultivates a younger generation that could not wear the heavier Varsities.

With all the modern stress in advertising that is being put on style in the collar, the suit of clothes, the hat, gloves, etc., little has been laid on

that important article of dress, the Varsity eyeglass. There is a field for you with the Mignon Varsity if you emphasize its exquisite workmanship, style, utility and the comfort of its light frame. Try the Mignon Varsity and send your customers circular letters telling them you have the latest style in a folding eyeglass to show them. Place a test order with your jobber.

How's Business?

"How do you find business?"

"By advertising!" replied the Live Wire dealer.

It does pay. The more you take advertising into your business the BETTER it pays.

Judging Standard Chain Color

SPEAKING of color in chains" says "Al" Hughes, "it is largely a matter of taste with the individual trade. What you and I would regard as excellent color, many would dislike. The only basis of judgment as to what the best color is, is the consensus of opinion gathered in going the rounds.



"I always use a Chain"

"I have heard the color of AOCO chains praised and criticized. But taking it day in, day out on the road I believe, without undue prejudice, that we have as near the standard color in chains as any line of its kind on the market. I believe also that the trade are coming to appreciate the changes in this respect and others that the reorganization of our chain line last Fall has effected.

"Speaking of another matter, did you ever take one of our cable earloops and twist the loop about $\frac{1}{4}$ -inch from the chain? You'll notice it springs back because of its stiffness. Take someone else's make and twist it. It remains out of shape. That's because the end of the loop when soldered to receive the chain gets overheated and anneals the shank, taking out the stiffness. A little trick in manufacture that we know and others have failed to appreciate. But AOCO chains and loops possess just such little superiorities.

Next month there will be something special to say about a new unit assortment of eyeglass chains. This will be a combination proposition that you really won't want to overlook. We can't say much more here without giving away the whole story and "Al" Hughes says it's too early to "shoot the works." You know "Al" and will take his tip when he says—"wait and see!"

The New Motorglass Window Card

GETTING ready for the opening motorglass season means the possession of the three color window card No. 14 W8 shown here. These cards are free, the same as the No. 14 D1 Window Display card for sun and motor glasses shown on page 259.

It will be opportune now for you to ask for these in view of the drive you are going to make for motor glass business this Spring.



Good Things Come in Small Packages

THE fine grey stripe running through the ivory of our new white Zylo folding pocket readers is the finishing touch to a marvelously fine little article.

There is always a demand for ivory white articles in many lines. These new folding readers offer a profitable little specialty line and adapt themselves naturally to counter cases where the customer is attracted by such artistic things.



Pocket Folding Ivory Readers

The small reader No. 5851 has a lens one inch in diameter and sells for \$8.10 per dozen. The No. 5852 shown in the illustration carries a two inch lens and sells for \$12.00 a dozen. A small stock of each size should ensure you of a good turnover on a most profitable little line.

Lenstick Cement in Tablet Form Only

HEREAFTER Lenstick Cement will be supplied in tablet form only, the use of the powdered form having been discontinued.

The reason for the change is that the cement made in tablet form is far more convenient to handle, stands weather conditions better because of its form and ingredients and is superior in every way. It is positively a scientifically made cement, produced by chemical engineers of recognized high standing and ability.

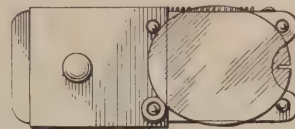
The new tablet cement is sold in glass jars at \$.50 per jar. Order from your jobber by No. M323. One jar will cement one gross of lenses to KeeLock mountings.

To Users of KeeLock Slotting Machines!

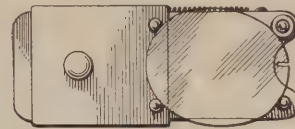
THOSE having machines purchased prior to March 1, 1916 will be supplied free, if desired, with an improved method of slotting lenses above and below center.

This improvement, included with our new machines, consists simply of a ring to slip over one of the pins on

the lens holder when desiring to slot lenses $\frac{1}{16}$ " or $\frac{1}{8}$ " above or below center. Upon request this ring, together with instructions explaining its use, will be sent free of charge.



For slotting lenses $\frac{1}{16}$ in. above center



For slotting lenses $\frac{1}{8}$ in. above center

Noviol Glass is Ideal Protection

SUN light and artificial light are each a combination of useful visible rays with certain invisible rays useless to human eyesight. In fact these invisible rays are known to be positively injurious to the delicate eye membranes and tissues.

Science has not only discovered and measured these dangerous invisible enemies of our eyes, but has happily provided a most remarkable glass for spectacles and eyeglasses as a means of protection against them.

Where such protective lenses are not worn, we may suffer headaches, sore and bloodshot lids and eyes which are often the symptoms of such afflictions as sun- or snow-blindness and in rare cases, total blindness. These maladies are often the result of exposing the eyes to an over-amount of harmful visible rays, the direct or reflected glare from sun light or artificial light.

NOVIOL glass is scientifically tinted to exclude or absorb not only the harmful invisible (ultra-violet) and infra-red radiations, but it has the additional property of absorbing some of the visible colors, such as violet, blue and red, which colors tend to reduce the clearness and distinctness of vision by their presence in white light.

All this is accomplished without diminishing the *brilliance* of transmitted light. In fact, through NOVIOL glasses, objects stand out sharp and distinct for remarkable distances.

Just as a ray-filter in photography sharpens and brings out otherwise unseen details, so will NOVIOL glass increase the eye-efficiency of the spectacle or eyeglass wearer.

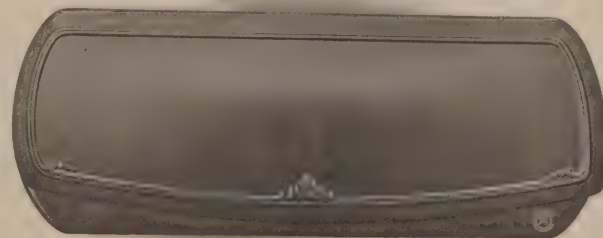
Ask your jobber about NOVIOL glass and get a stock in quickly.

Metal Case Finishes Are Popular

NON-RUSTABLE, soft, lustrous black finishes set the new ACo Gun Metal cases off to beautiful advantage. Japtol, Frostol and Gun Metal have captured the fancy of the trade because they are economical in price, sturdy and graceful of form and superb in appearance.

Gun Metal has long been a popular finish for all sorts of metal goods. It is a rough-and-ready finish capable of severe handling without showing it. When adapted to our steel case forms it becomes an exceptional value, for it advances the dealer's favor with his customer for a moderate price.

Sold at \$5.25 the dozen and at present made only in the 327-2 G. M. size.



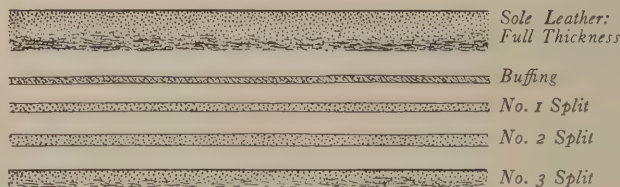
Pat'd

Cowhide Buffing Versus Skivers

AMID all the hue and cry about case superiority the outstanding fact remains that the AOC_o uses only cowhide buffing *and no skivers* on its regular cases.

We have even been accused of hurting the other fellow's business because we insisted on using only cowhide buffing and advertising the fact.

The only time we ever use skivers is upon request from the purchaser. Our strong position against them is based on knowledge of the dissatisfaction resulting from their use. A skiver will generally tear at the scratch of a fingernail. It never wears long at the



edges, where skivers are invariably thin.

Besides these merits you get the benefit of our patented improvements such as the Day automatic self-closing spring and the off center spring in wide eyeglass sizes. The gold leaf lettering, snug fit covers and all the little evidences of attention to the veriest detail betoken real workmanship in the AOC_o case. Ask your jobber for the high quality AOC_o Streamline cases.

Speaking of cases. Have you ever given much attention to selling AOC_o patented self-closing aluminum cases? It is a mighty good plan to carry your own glasses in an aluminum case. You automatically find your own selling arguments. It will surprise you too, what real advantages aluminum cases possess besides the neat little profit on each transaction that you don't get when you give a case away.

We make these aluminum cases, in all regular shapes and sizes. They look good in your window—and their profits look good in the cash drawers; your customer is pleased.—Why worry?

Superior Merits in New Fits-U

THE new O3131 patented Self-Centering Fits-U is carrying with the trade on its merits because its simplicity and quickness of adjustment make it a paying investment for the dealer.



The bearing pad is a rest only, with the holding power vested in the long rocking blade and its broad, comfortable surface. Made in 1/10 12K, and in 10K solid gold. 1/10 12K, \$7.50 doz. 10K, \$16.50 per doz. U. S. prices.



Lizard Grain on Cowhide Buffing.—Patented

case edges and because of its thin nature the steel form shows thru after having been carried a few days. This defect in turn within a brief time causes the form to become rusty.

The AOC_o case which claims to set the standard in quality, is based on just such features as these where only cowhide buffing is used.

Cowhide buffing, which forms the foundation for all AOC_o leathers, is seen from the accompanying illustration to be the first tough, hair side split of hide taken from the full sole leather. When fully prepared and grained it is thick at the edges of the cases and lies strong and tight on the steel form. It withstands scratches and moisture. Our machine method of applying it to cases with our special adhesive produces the famous AOC_o rust-proof cases that hand-fitted case coverings fall short on.

When you get an AOC_o case you are buying satisfaction for yourself and customer. You purchase a case that looks well, with its graceful lines. The leather has an exceptional grain, distinct and smooth, with no "buckling" or folds at edges where the wear comes. It has reinforced thickness of leather at the

Pi Omikron Sigma Enjoys Visit Till the Cows Come Home

ABOUT 11 A.M. on February 21st a husky bunch of Pi Omikron Sigmas from the Massachusetts (Klein) School of Optometry, Boston, rang our front doorbell. They gave the Greek pass-word and were admitted within the AOCo portals with full honors and the optical grip.

President J. Barton Whitney, Vice-Pres. Fred D. Draper, Secretary B. Frank Fletcher and Treasurer Raymond Howlett headed the society. The crowd then deposited themselves on the front doorstep while we rushed out with a freshly painted sign, lined up our film gun and shot the whole clan as you see them here. The man with his good right fist holding the sign was the tall and popular president, who later rose and did the honors for the Society in an after-dinner speech. Vice-President Draper and Treasurer Howlett turned out to be masked journalists out for a joint "scoop"

on space stories, so we flocked with them, as birds of the same feather.

The day's pleasure consisted of a trip over the company's 51 acres, through all departments. A luncheon followed by good smokes and a view of the machinery, Lensedale and Main Factory divisions returned a tired but enthusiastic group to Boston when the last gun was fired and the factory emptied itself at 6 o'clock. Any bunch that sticks till the cows come home is the live, enthusiastic crowd that we like to see.

The AOCo is big enough and interesting enough as an institution to make it almost a part of the optometrist's education to make

the pilgrimage to Southbridge. Individuals in the business and profession and organized bodies directly interested are cordially invited to come too.



Twenty Thousand Yards of Lens Cleaners Gone! New Supply Ready!

Twenty thousand yards, our entire supply of lens cleaners, have been wiped out by trade demand. A new process and new material which are vast improvements on those preceding, are now ready.

THERE are more than a few good points about these new AOCo lens cleaners,—but here are some of the essential things, briefly, which you should know about them:—

New Grade "F" Cleaner

There were so many requests last year for a very fine texture of lens cleaning cloth, that this year we have had two grades of cleaners prepared. One is similar in texture to the cleaners we put out last year. The other, which will be called Grade F, is a considerably finer textured cloth. Both grades are in the regular pink color only.

Both grades are being made under a new process which assures you of much better cleaners than any offered before. We have been fortunate, especially so under present market conditions of cloth and dyes, to be able to contract for the entire output of an Eastern Finisher.

Thorough investigations over the past year have satisfied us that this concern knows the art of finishing lens cleaning cloth decidedly better than any other concern in the country. Their finishers know the secrets of maintaining uniform quality, softness, color and anti-septic treatment in the cloth. They know how to keep the weave so that it is effective in its cleaning qualities and they know how to treat the cloth with the chemical without allowing the cleaners to become stiff or starchy in appearance.

The fact that this new treatment makes the cleaners thoroughly sanitary and leaves them with a slight pleasing antiseptic odor,

adds materially to the value of AOCo Lens Cleaners. You will find that this feature appeals to your customers,—it is what they have wanted!

In making these cleaners we imprint good forceful ads for the dealer's shop, together with the dealer's name and address or other information, and properly notch or "pink" them on the edges to a standard 4" x 6" size. Four different designs of ads are offered, and you have your choice of those you think apply best to your business.

Order these by number thru your jobber, and be sure to give your complete imprinting instructions plainly. Do not forget to specify which grade you want. If it is the fine texture cloth be sure to put a letter "F" after the order number.

The price complete with your imprint and the ad is \$8.80 per thousand for the "F" or fine grade cleaners and \$7.50 per thousand for the regular grade. At least 500 must be ordered of one design and with 1000 cleaners of one design we will present you free with two large cleaners of the grade ordered, 11½ x 15½ inches, for use at the fitting table.

We expect there will be a strong demand for these new cleaners, so we suggest that you avoid the rush as much as possible, by coming in early with your first order. Get some of each grade. Your jobber has samples, or we can send you samples. By all means do not delay this matter as the textile market is steadily rising on cloth. We must fill requests in the order received. Try to anticipate your requirements for a long period in advance, as we are told the prices now quoted are as low as they can go this year and a material rise in prices may develop later on.

Thinking Out the Problem of



FREE!

Handsome
Red and Black
Non-Rustable
Steel Sign.

"Meet Me at
the Sign of the
Fits-U."

No. 5W22 Free

BLUE AND WHITE BLOTTER



Just Out. No. 21B1



VIVIDLY COLORED SLIDE

New. No. 21

GROUPEd on these two pages are advertising helps that will help you to stir up public interest in your store, its goods and yourself. Properly used they will create a demand and interest in your goods that will then require only salesmanship on your part to move off your shelves.

In the February AMOPTICO, p. 246, there was shown a suggestion for an Ultex Onepiece Window Display. This window trim is running this month in many optical shops the country over. The new offerings in Ultex Onepiece newspaper ads, blotters, window display cards and lantern slides shown on this page can, therefore, now be used to supplement last month's suggestion. By sending out your blotters and running the lantern slide at your local "movie" theatre this week you are setting in force a complete campaign on this lens. You are creating business for yourself.

Every prominent line marketed by this company has its quota of advertising circulars, blotters, window cards, dealers' ads, etc., behind it, with the sole object of helping the dealer to move his goods. If the dealer wishes to push the Kee-Lock or to "move" his stock of Fits-U's a circular letter, a blotter, an ad or a window display can be obtained from the AOCO. If used judiciously it will create the desired demand.

When the dealer comes to consider how he shall get more business, common sense and good judgment are the best guides to results. A thorough survey of his



ULTEX ONEPIECE BIFOCAL

TRADE MARK REG. UNI-BIFO (LUXE)

There comes a time when most of us reach the "reading glass" period — we think we must have different glasses for reading and distance. There is really no need of two pairs if you use the

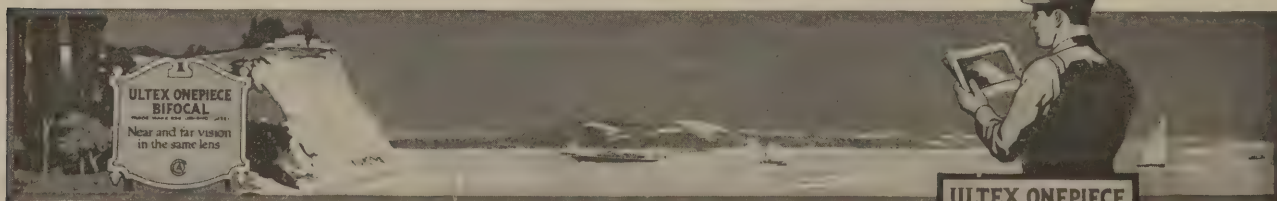
ULTEX ONEPIECE BIFOCAL

made of a single solid piece of glass. Let us show you and explain.

Dealer's Name

No. 21D

field, an analysis of the trade conditions in it and of the buying impulses peculiar to glass-wearing people are the first steps to a foundation. Knowing these things the dealer then knows what advertising material to use and how to use it, to most effectively appeal to the elements he wishes to reach.



PACKED and shipped in four sections this display complete is the finest Ultex Onepiece Bifocal display yet offered.

Window Display
No. 21D1, \$1.00 complete

Increased Sales for the Dealer



Motorists' Eye Protectors

Eyesight is too precious to take chances with. Big, roomy eye protectors that are comfortable and easy-fitting will avoid the chance of accident, relieve eye-strain and prevent headaches. For long motor trips, they are indispensable for the driver and the passengers. We have a liberally large line for you to select from.

Prices 50c to \$5.00

Dealer's Name

No. 14A

Our knowledge of the glass-wearing public has resulted in the AOC's dealer helps. These are offered to the trade. If used properly we believe the dealer can get the

increased business he wishes.

When you look over your field and decide that you want to move your stock or create new business ask the AOC's for assistance.

FITS-U RUG IS "ORIENTAL DESIGN"

In making the first announcement of the "Fits-U Rug," it was referred to as an "oriental rug." This has created some impressions which we want to correct.

What we intended to say was, that the rugs are oriental in design only—for they were manufactured by one of the world's leading rug-makers, right here in the U. S. A. They are Wilton heavy quality weave rugs,—not "oriental."

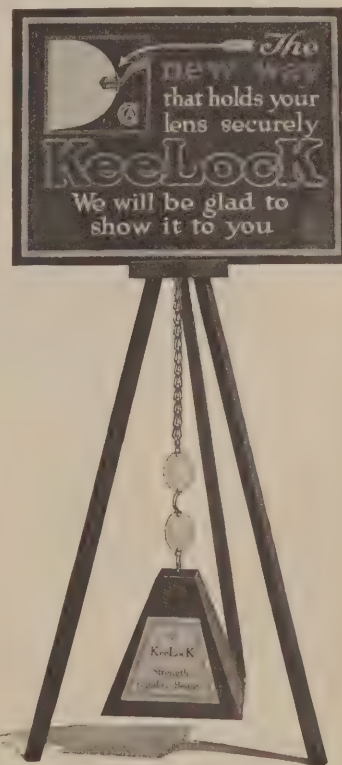
This Fits-U rug (No. 5 M6) has become quite popular. It is a good serviceable article. It has a big advertising wallop in it for your shop.

It is not a cheap rug—it sells for \$7.50—but it is worth the price. We do not want anyone to feel that it was our intention to misrepresent the rug and we shall be glad to refund the money to anyone not perfectly satisfied with the bargain after the rug is received, if it is returned to us promptly and in good condition.

Most every good shop can use one of these handsome rugs effectively. Make a note now to send in an order for one thru your jobber.



No. 10D2, \$5.00 Set complete



No. 2D1, \$1.50 complete

THEY SELL THE GOODS!



17D6

Set of Attractive Window Stands
\$1.50 per Set

Try This Eyesight Test

Attach this blotter to a convenient wall or door on a level with your eyes. Stand twenty feet away. If you cannot read the large black letters you need glasses

N R P T Z O E

NEAR-VISION TEST. Hold this blotter fourteen inches away from your eyes in a natural reading position. If you cannot read the following lines of print easily You Need Glasses

There is a common cause for the need of glasses. It is the eyesight's weakening by lack of use. They are "glasses" only in the sense that they are "glasses" to the eyes. It is a common cause for the need of glasses. It is the eyesight's weakening by lack of use. They are "glasses" only in the sense that they are "glasses" to the eyes.

If You Need Glasses Consult

Space For
Dealer's Imprint

We use genuine American Optical Company frames and lenses

Test Type Blotter, No. 10B2



The Dealer's Delight—Selling AOCo Kryptoks

THE time has come when a dealer is known by his Kryptoks, just as a man is known by the company that keeps him, the mule by his kick, etc.

An optometrist or optician nowadays would no more think of admitting he used anything but AOCo "Kryps" than he would of recommending rubber lenses on a stormy day.

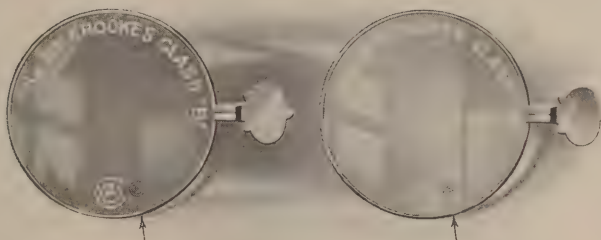
The fact is that the AOCo guarantees careful, quick service on its Kryptoks. Regular orders go out to the jobbers the same day they come in. At the branch offices delivery is a matter of hours only, after receipt.

The AOCo Kryptok has a clear, luminous personality. On the surface he is scratchless and in the depths of him there are no bad streaks or bubbles. He looks at things in a distant sort of way, with a clear vision of the things beyond, or he sees near to with a remarkably clear eye. He can change his glance

from far to near without a moment's distraction. And last of all he is strong and tough in a pinch, but highly polished all the while. The personality of A.O. Kryptok is the envy of all his family.

Behind this lens is a support and offensive weapon of advertising materials, circulars, blotters, dealers' ads and window cards.

The above window trim is a suggestion for next month's display. The big Kryptok sign was hand-painted by the author of these burning words, so you know if he could do it you could. The Toric flashing sign, Glad Hand and the new stands are some of our permanent fixtures that every dealer should have. They help display a few other goods beside the Kryptoks. The Kryptok window card No. 18W2 with lenses is available at \$1.50 complete. Send for this material and get ready for this window for next month now.



Etched Trial Rings at 25c the Pair

Know the Genuine Crookes!

It is imperative, considering the remarkable demand for Sir William Crookes glass, that we call attention of the trade to the necessity of knowing the genuine glass by certain identifying marks.

Only the genuine Sir William Crookes lens carries the name of that eminent scientist.

Genuine Crookes moulded blanks have the AOC monogram and the name Sir William Crookes in relief around their edges. Finished and semi-finished lenses have the AOC monogram etched almost in-

visibly on their surfaces. Get the genuine Sir William Crookes neutral tinted lens from your jobber. Furnished exclusively by American Optical Company.



Beware of Imitations

Look for the identifying marks

Reg. U.S. PAT. Off.



Patented

THE SUPREME BENCH

THE M5 optician's bench was the first of its kind a year ago, when announced. Today it is the first of its kind in optical circles—the supreme bench of them all.

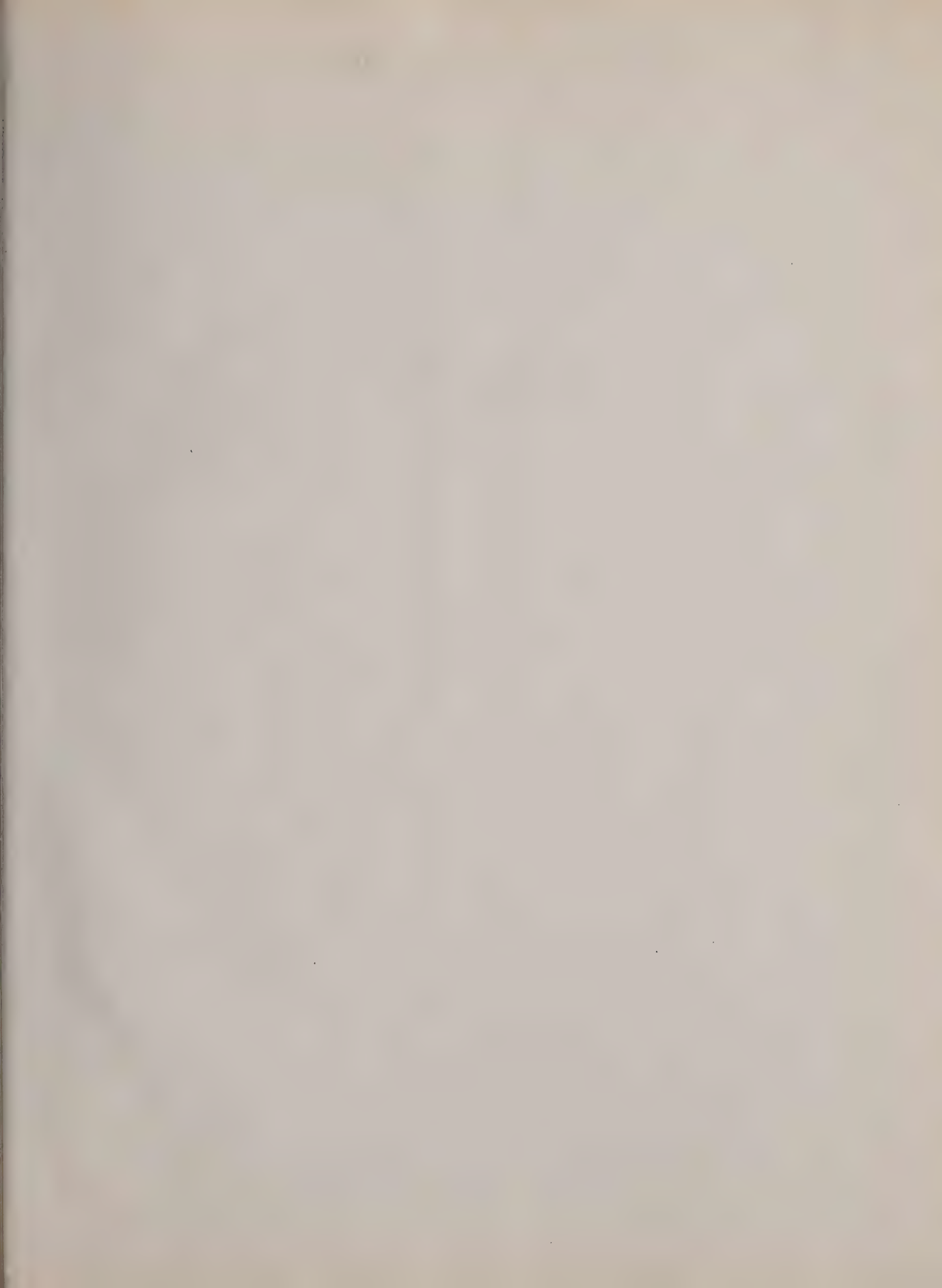
It is offered to the optician or optometrist who requires a compact, roomy bench of comfortable height at a nominal cost.

The M5 reveals ample space with room for anvil, vise, soldering apparatus, files, pliers, etc. It stands 3 ft. 3 in. high, is 3 ft. 3½ in. long, 2 ft. 2 in. deep and net weight is 144 lbs. Order from your jobber.

If you haven't a copy of our Complete Machinery Catalog, write for it.

Compact, Roomy, Price \$30.00 Net

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SOUTHBRIDGE, MASSACHUSETTS

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